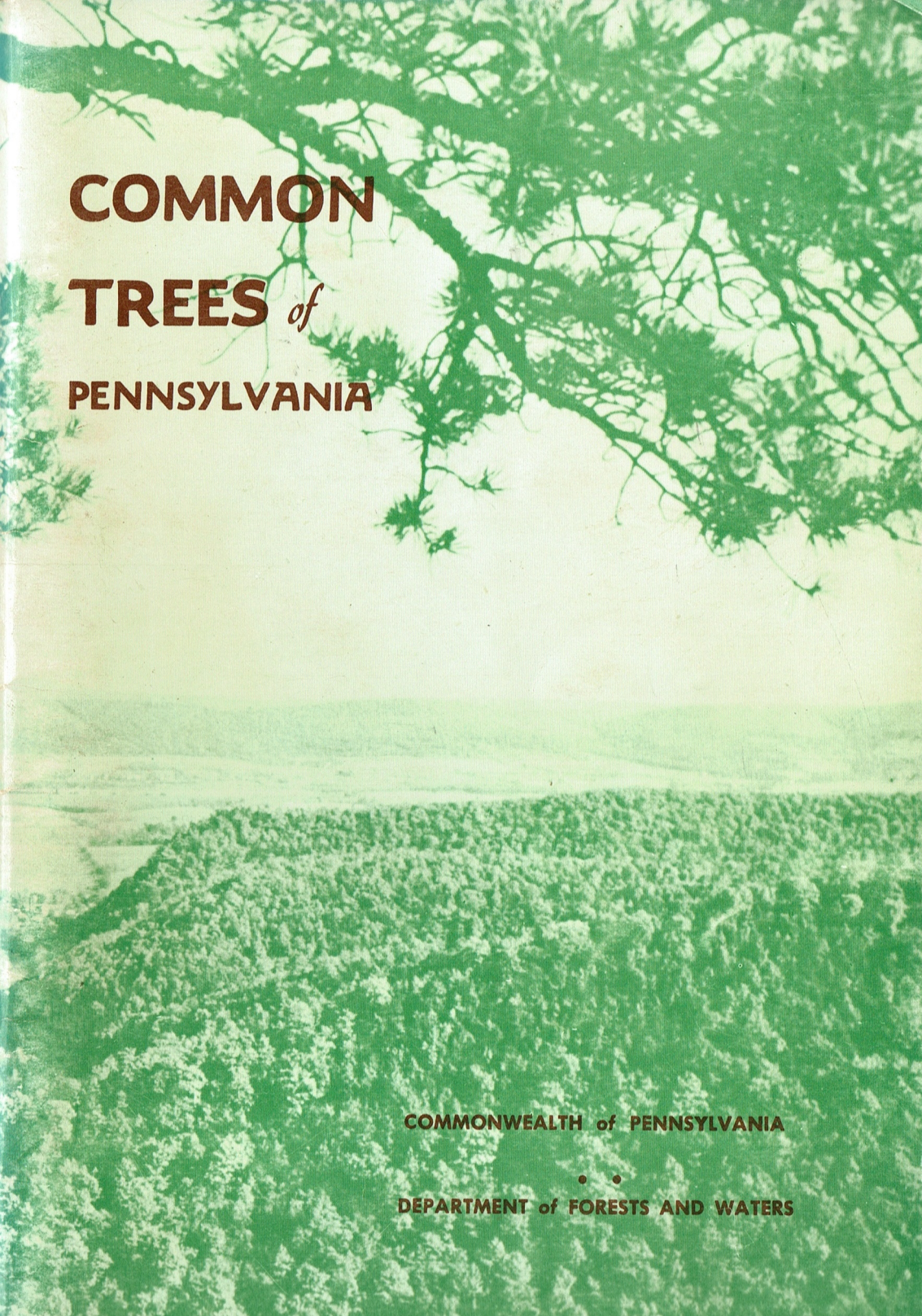


COMMON TREES *of* PENNSYLVANIA

COMMONWEALTH *of* PENNSYLVANIA

DEPARTMENT *of* FORESTS AND WATERS

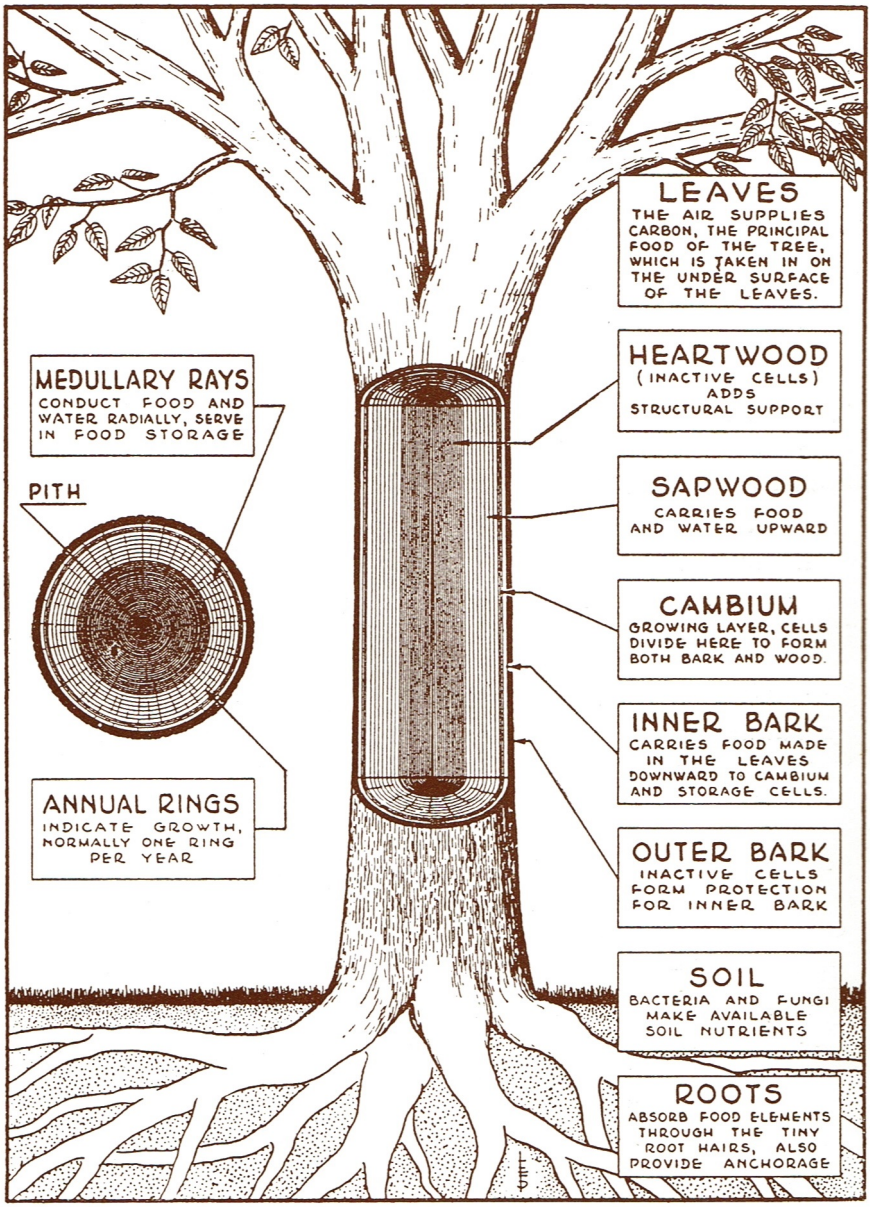

LEAVES
THE AIR SUPPLIES CARBON, THE PRINCIPAL FOOD OF THE TREE, WHICH IS TAKEN IN ON THE UNDER SURFACE OF THE LEAVES.
HEARTWOOD
(INACTIVE CELLS) ADDS STRUCTURAL SUPPORT
SAPWOOD
CARRIES FOOD AND WATER UPWARD
CAMBIUM
GROWING LAYER, CELLS DIVIDE HERE TO FORM BOTH BARK AND WOOD.
INNER BARK
CARRIES FOOD MADE IN THE LEAVES DOWNWARD TO CAMBIUM AND STORAGE CELLS.
OUTER BARK
INACTIVE CELLS FORM PROTECTION FOR INNER BARK
SOIL
BACTERIA AND FUNGI MAKE AVAILABLE SOIL NUTRIENTS
ROOTS
ABSORB FOOD ELEMENTS THROUGH THE TINY ROOT HAIRS, ALSO PROVIDE ANCHORAGE
MEDULLARY RAYS
CONDUCT FOOD AND WATER RADIALLY, SERVE IN FOOD STORAGE
PITH
ANNUAL RINGS
INDICATE GROWTH, NORMALLY ONE RING PER YEAR

DIAGRAM SHOWING FUNCTIONS OF DIFFERENT PARTS OF A TREE

Courtesy of the *New Tree Experts Manual* by Richard R. Fenska

FOREWORD

THE PURPOSE of this booklet is to make the reader's life more enjoyable by being able to identify, through leaf, twig and bark characteristics, the important trees of Pennsylvania at various seasons of the year.

Today, more than ever before, trees play an increasingly important part in our lives.

Trees produce wood, one of the essentials of our everyday life. The uses for wood are rapidly increasing.

Trees provide shade and solace for man; they help to beautify the places where we live; help purify the air we breathe and the water we drink; enrich the soil and retard the earth from sliding into our streams, and provide food and shelter for wildlife.

In a few words: Trees live to give.

We sincerely hope the brief study of tree features described in this publication will help you to develop a closer feeling for our mutual friends of the plant kingdom—the trees of our land.

Many a tree is found in the wood,
And every tree for its use is good;
Some for the strength of the gnarled root,
Some for the sweetness of flower or fruit;
Some for shelter against the storm,
And some to keep the hearthstone warm.
Some for the roof and some for the beam,
And some for a boat to breast the storm;
In the wealth of the wood since the world began
The trees have offered their gifts to man.

—HENRY VAN DYKE

COMMONWEALTH OF PENNSYLVANIA

Department of FORESTS and WATERS

Harrisburg, 1963

INTRODUCTION

PENNSYLVANIA, with its unique geographical position, has 102 kinds of trees native to the State, although there are numerous introduced species growing and thriving in this latitude and climate. In addition, at least 21 large native shrubs sometimes grow to tree size and form.

Less than half of these native trees are presently classified as important timber species. But research in wood uses is rapidly progressing and some of the so-called "weed trees" may assume considerable importance in the future.

The selection of 50 native trees and 4 introduced species described in this booklet was based chiefly on numerical occurrence and value for timber, shade or ornamental purposes.

The first two plates (pages iv and v) show the types and arrangements of leaves. Outstanding features of individual trees are described in simplified wording and illustrated by accompanying sketches.

Interesting is the fact that pine cones and acorns of the "red or black" oaks ripen in two seasons while fruit from all other trees discussed herein mature in one season.

It is commonly known that no two persons are exactly alike in physical makeup. This is also true of trees since there is some variation in the features within each species.

EXPLANATION OF WORDS, TERMS AND SIGNS

WHICH MAY BE UNFAMILIAR TO READERS

Common and scientific names are from "Standardized Plant Names, 1942."

Capsule. A dry fruit which contains more than one seed and splits open when ripe.

Catkin. A compound bloom consisting of scaly bracts and flowers usually of one sex.

Downy. With very short and weak soft hairs.

Drupe. A fleshy one-seeded fruit, with the seed enclosed by a hard covering.

Evergreen (leaves). Remaining green throughout the year (older leaves die after 2-15 years).

Fissure. Furrow. A groove or crack.

Leaflet. A leaflike part or blade of a compound leaf.

Leaf Scar. A mark or impression at the point where a leaf had been attached.

Lenticel. A pore on young trunks and branches through which air passes to interior cells.

Lobe (of a leaf). A division or projecting part.

Pith. The spongy material in the center of twigs and young trunks.

Stalked. Having a stem.

Witches'-broom. Abnormal bushy growth of small branches.

Whorl. Three or more leaves or other parts encircling a stem at about the same point.

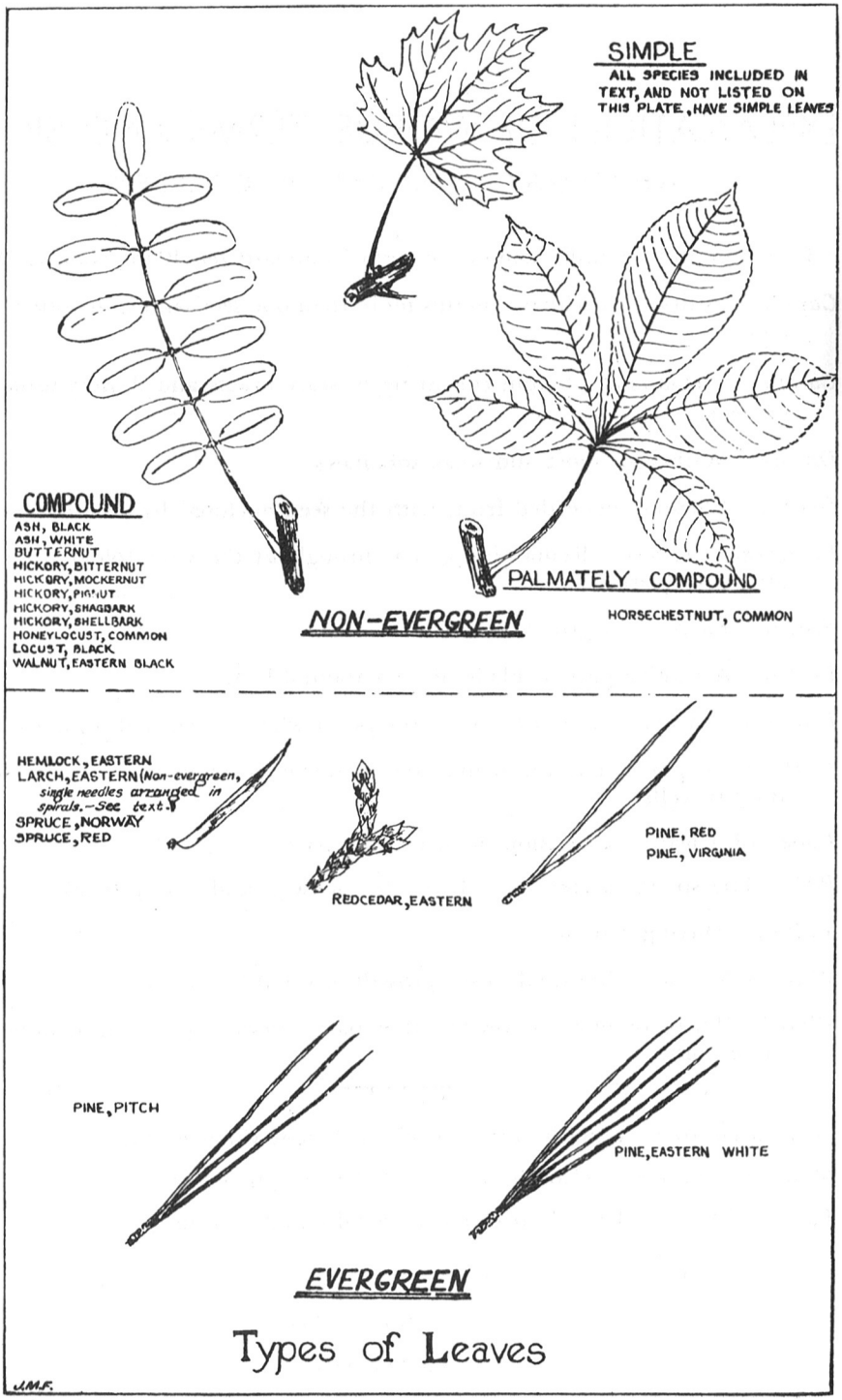
Small-sized tree. Usually not over 40′ in height when mature.

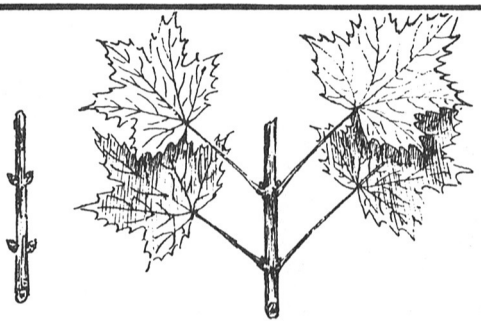
Medium-sized tree. Usually not over 60′ in height when mature.

Large-sized tree. Usually over 60′ in height when mature.

″ Inch or inches.

′ Foot or feet.


SIMPLE
ALL SPECIES INCLUDED IN TEXT, AND NOT LISTED ON THIS PLATE, HAVE SIMPLE LEAVES
COMPOUND
ASH, BLACK
ASH, WHITE
BUTTERNUT
HICKORY, BITTERNUT
HICKORY, MOCKERNUT
HICKORY, PIGNUT
HICKORY, SHAGBARK
HICKORY, SHELLBARK
HONEYLOCUST, COMMON
LOCUST, BLACK
WALNUT, EASTERN BLACK
PALMATELY COMPOUND
HORSECHESTNUT, COMMON
NON-EVERGREEN
HEMLOCK, EASTERN
LARCH, EASTERN (Non-evergreen, single needles arranged in spirals.—See text.)
SPRUCE, NORWAY
SPRUCE, RED
REDCEDAR, EASTERN
PINE, RED
PINE, VIRGINIA
PINE, PITCH
PINE, EASTERN WHITE
EVERGREEN
Types of Leaves
J.M.F.

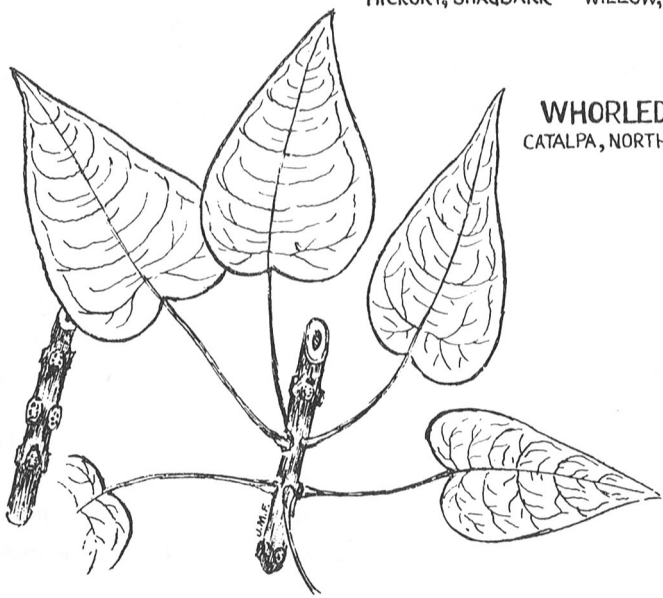


OPPOSITE

ASH, BLACK
ASH, WHITE
DOGWOOD, FLOWERING
HORSECHESTNUT, COMMON
MAPLE, NORWAY
MAPLE, RED
MAPLE, SILVER
MAPLE, SUGAR

ALTERNATE

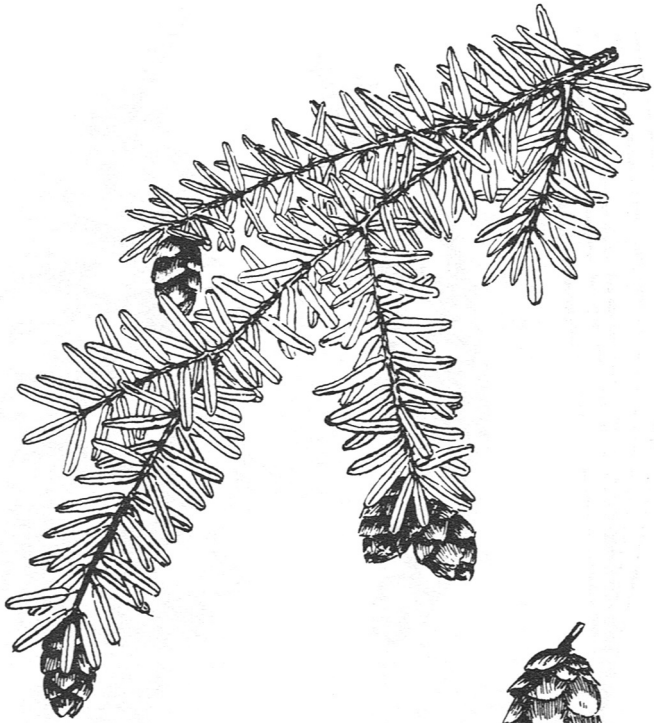
ASPEN, BIGTOOTH
ASPEN, QUAKING
BEECH, AMERICAN
BIRCH, GRAY
BIRCH, PAPER
BIRCH, RIVER
BIRCH, SWEET
BIRCH, YELLOW
BLACKGUM
BUTTERNUT
CHERRY, BLACK
ELM, AMERICAN
ELM, SLIPPERY
HACKBERRY, COMMON
HICKORY, BITTERNUT
HICKORY, MOCKERNUT
HICKORY, PIGNUT
HICKORY, SHAGBARK
HICKORY, SHELLBARK
HONEYLOCUST, COMMON
LINDEN, AMERICAN
LOCUST, BLACK
MAGNOLIA, CUCUMBERTREE
OAK, BLACK
OAK, CHESTNUT
OAK, EASTERN RED
OAK, PIN
OAK, SCARLET
OAK, WHITE
PAPAW, COMMON
PERSIMMON, COMMON
PLANETREE, AMERICAN
SASSAFRAS, COMMON
TULIPTREE
WALNUT, BLACK
WILLOW, BLACK



WHORLED

CATALPA, NORTHERN

Arrangement of Leaves and Buds on Twigs



EASTERN HEMLOCK

(Tsuga canadensis)

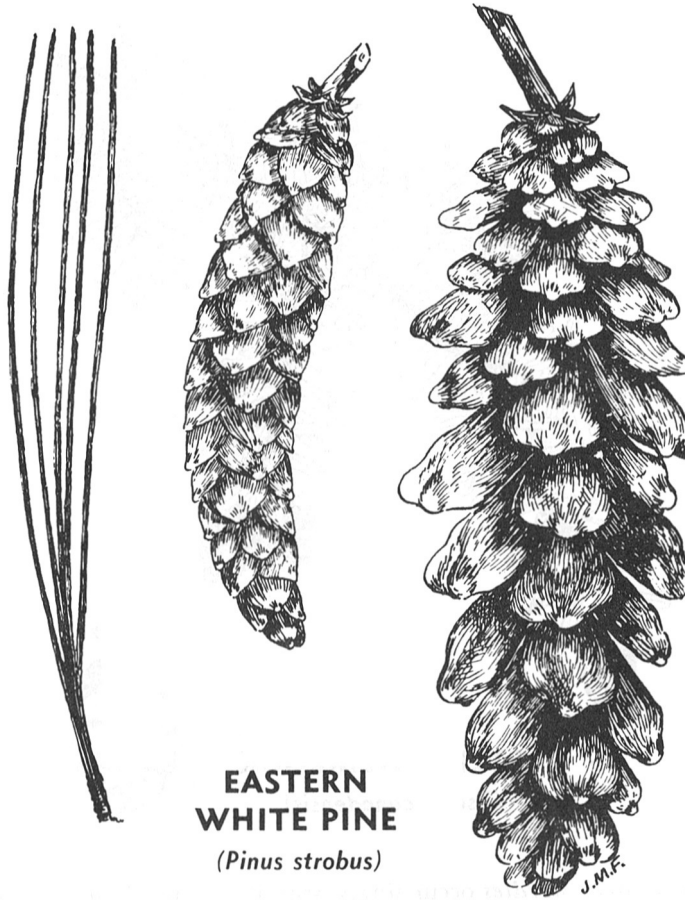
LEAVES: *Evergreen needles* occur singly, spirally arranged on twigs but appear 2-ranked; flattened, about ½″ long; dark green, glossy and often grooved above: light green with 2 white lines below.

TWIGS: Slender, rough, yellowish brown to grayish brown. *Buds* egg-shaped, 1/16″ long, reddish brown.

FRUIT: A *cone*, ¾″ long, egg-shaped; hangs singly from the tips of the twigs; usually remains attached all winter after ripening in the fall. Under each rounded scale are 2 small winged seeds.

GENERAL: *Bark* on young trees flaky, thick and roughly grooved when old, grayish brown to reddish brown; used in tanning; inner bark cinnamon-red. A *large* tree, long-lived; shade-enduring. *Wood* is important for construction lumber.

The EASTERN HEMLOCK *is the official State Tree of the Commonwealth of Pennsylvania.*



EASTERN WHITE PINE

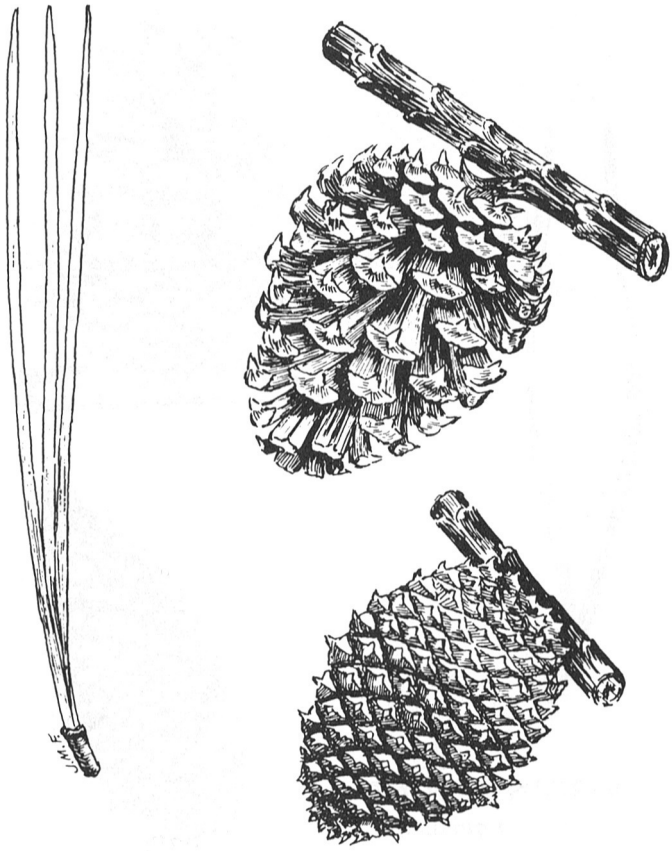
(Pinus strobus)

LEAVES: *Evergreen needles* in clusters of 5, soft, flexible, 3-sided, 2½″—5″ long, bluish green in appearance due to whitish lines. This is the only 5-needle pine native to Pennsylvania.

TWIGS: Slender, flexible, with rusty hairs when young, finally smooth. *Buds* egg-shaped, usually less than ½″ long; gray-brown.

FRUIT: A *cone,* 5″—8″ long, about 1″ thick, no prickles, stalked, drooping, slightly curved, resinous, remains attached for one to several months after ripening in autumn of second season. Each scale usually bears 2 winged seeds which is characteristic of all native pines.

GENERAL: *Bark* on young trees and branches greenish brown and smooth, later darker, grooved and scaly. Produces one whorl of about 3 to 7 side branches each year, a feature which is useful in estimating age. A *large* and very *important* timber tree. *Wood* probably has more uses than that of any other species.



PITCH PINE

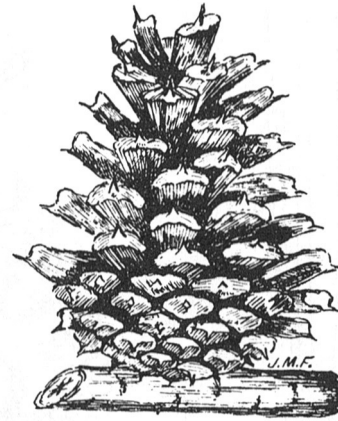
(Pinus rigida)

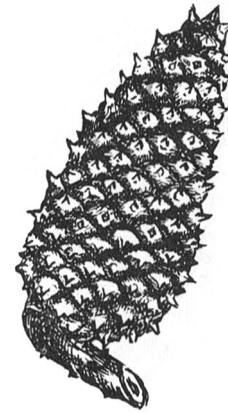
LEAVES: *Evergreen needles* in clusters of 3, stiff, 2½"—5" long, yellowish green.

TWIGS: Stout, brittle, rough, angled in cross-section, golden-brown. ***Buds*** egg-shaped, about ½" long, resinous, red-brown.

FRUIT: A *cone,* 1½"—3½" long with short stiff prickles, nearly stalkless, often remains attached for 5 years or more after ripening.

GENERAL: Thick, rough, grayish brown *bark* on older trees. A ***medium-sized*** tree. Common on poor, sandy soils and areas where forest fires have killed most other trees. *Wood* used chiefly for railroad ties, mine props, construction lumber, posts and fuel.





VIRGINIA PINE

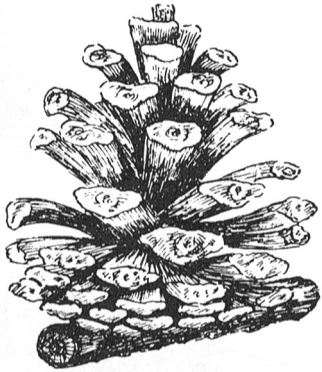
(Pinus virginiana)

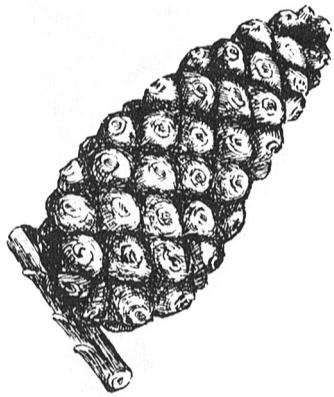
LEAVES: *Evergreen needles* in clusters of 2, twisted, stout, relatively short (1½″—3″ long), not numerous on twigs.

TWIGS: Slender, curved, flexible, brown to purple with bluish white coating. *Buds* egg-shaped, usually less than ½″ long, brown, resinous.

FRUIT: A *cone,* 2″—3″ long, prickles small but sharp, edge of scales with darker bands; usually without a stalk; remains attached for 3 or 4 years.

GENERAL: Smooth, thin, reddish brown, scaly *bark.* A *small* tree; able to grow on poor, dry soils. Common on abandoned farm lands where shale soils predominate. Usually grows in dense pure stands. Often called *scrub pine. Wood* used chiefly for paper pulp, fuel and mine props.





RED PINE

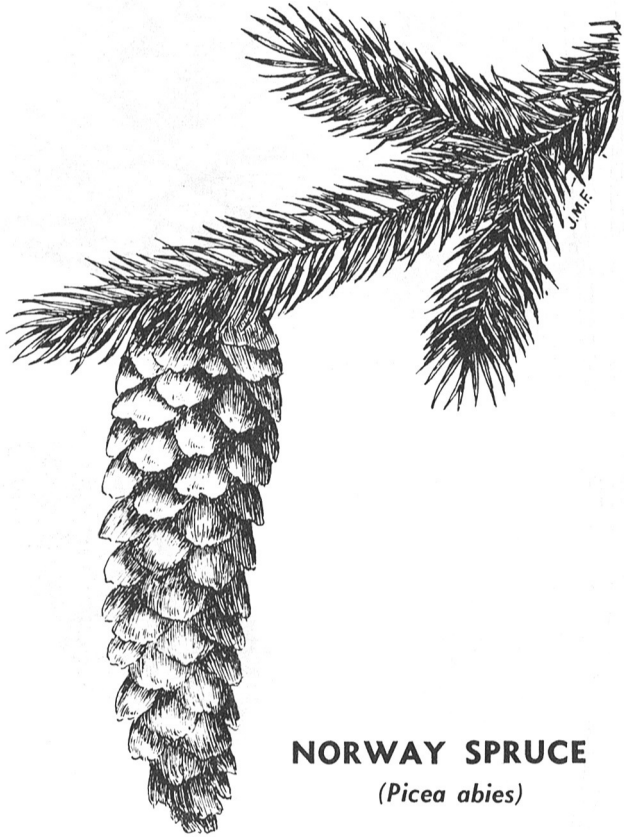
(Pinus resinosa)

LEAVES: *Evergreen needles* in clusters of 2, slender, 4″—6″ long, dark green, borne in dense tufts at the ends of branchlets; snap easily when bent double.

TWIGS: Stout, ridged, yellow-brown to red-brown. *Buds* egg-shaped, about ½″ long, brown at first and later silvery.

FRUIT: A *cone,* about 2″ long, without prickles, nearly stalkless, remains attached until the following year.

GENERAL: Comparatively smooth, reddish brown *bark.* Like white pine, it develops one horizontal whorl of side branches each year. A medium to *large*-sized tree. *Valuable* timber tree in the northern part of the State; *wood* used chiefly for construction lumber.



NORWAY SPRUCE

(Picea abies)

LEAVES: *Evergreen needles* occur singly, spirally arranged on twigs, sharp-pointed, four-sided, usually ¾″ long, dark green.

TWIGS: Bright, golden-brown. *Buds* egg-shaped, darker than twigs.

FRUIT: A cylindrical *cone,* 4″—7″ long, light brown; scales with finely toothed margin, broader than long.

GENERAL: *Bark* relatively thin, reddish brown, scaly, becoming gray-brown but seldom furrowed on old trees. Branchlets on older trees droop. A *large* tree with a dense, conical crown. A European species that has become a valuable naturalized member of our forests, and extensively planted as an ornamental. *Wood* used chiefly for paper pulp, boxes, crates and lumber.

RED SPRUCE

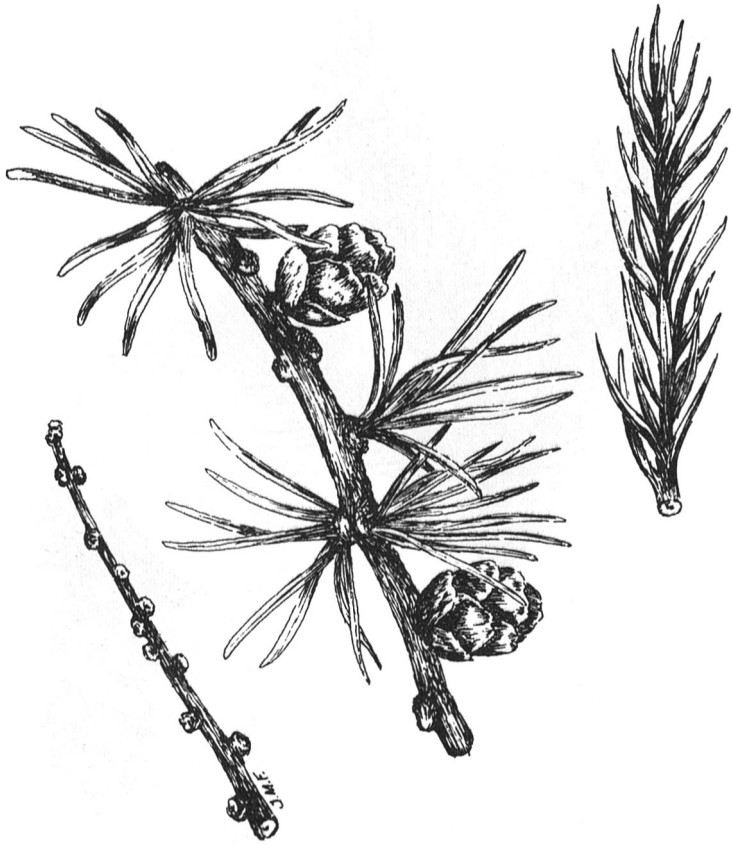
(Picea rubens)

LEAVES: *Evergreen needles* occur singly, spirally arranged on twigs, stiff, four-sided, usually ½″ long, dark green; less sharp than Norway spruce.

TWIGS: Orange-brown with very fine hairs. *Buds* egg-shaped, about ⅓″ long, red-brown.

FRUIT: A *cone,* 2″ or less in length, reddish brown, remains attached for one to several months after ripening in the fall.

GENERAL: *Bark* red-brown, rough, scaly. A *medium* to *large*-sized tree. *Wood* used chiefly for paper pulp, boxes, crates and lumber. Frequents swamps; chiefly in northeastern parts of the State. Black spruce (P. mariana) is a similar but smaller native tree.



EASTERN LARCH

(Larix laricina)

LEAVES: *Needles* not evergreen; occur singly near the ends of the twigs, elsewhere in clusters of 10 or more; about 1" long, pale green, turning yellow and falling from the tree during the autumn.

TWIGS: At first covered with a bluish white coating, becoming dull brown and with numerous short spurs. *Buds* round, small, 1/16" long, dark red.

FRUIT: A *cone*, about 3/4" long, egg-shaped, upright, often remains attached for several years after ripening in the fall.

GENERAL: *Bark* smooth at first, later becoming scaly, dark brown. A *medium-sized* tree. Only cone-bearing tree native to Pennsylvania that loses its needles annually. Found locally in moist situations. *Wood* used chiefly for paper pulp, lumber, posts and railroad ties. European larch (L. decidua) and Japanese larch (L. leptolepis) are more commonly planted in the State. *Eastern larch is also known as tamarack.*

EASTERN REDCEDAR

(Juniperus virginiana)

LEAVES: *Evergreen,* opposite, two types (often on the same tree): the older more common kinds are scale-like and only 1/16"—3/32" long, while the young sharp-pointed ones may be up to 3/4" in length; whitish lines on the upper surface.

TWIGS: Slender, usually 4-sided, becoming reddish brown. *Buds* small and not readily noticeable.

FRUIT: Bluish *berry-like,* covered with a whitish powder, about 1/4" in diameter; flesh sweet and resinous: contains 1—2 seeds. Ripens the first year.

GENERAL: *Bark* reddish brown, peeling off in stringy and flaky strips. Usually has a conical crown. Prefers limestone and shale soils. A *small* to *medium*-sized tree. *Wood* used chiefly for fence posts and "cedar chests." Slow of growth; long-lived.

WHITE OAK

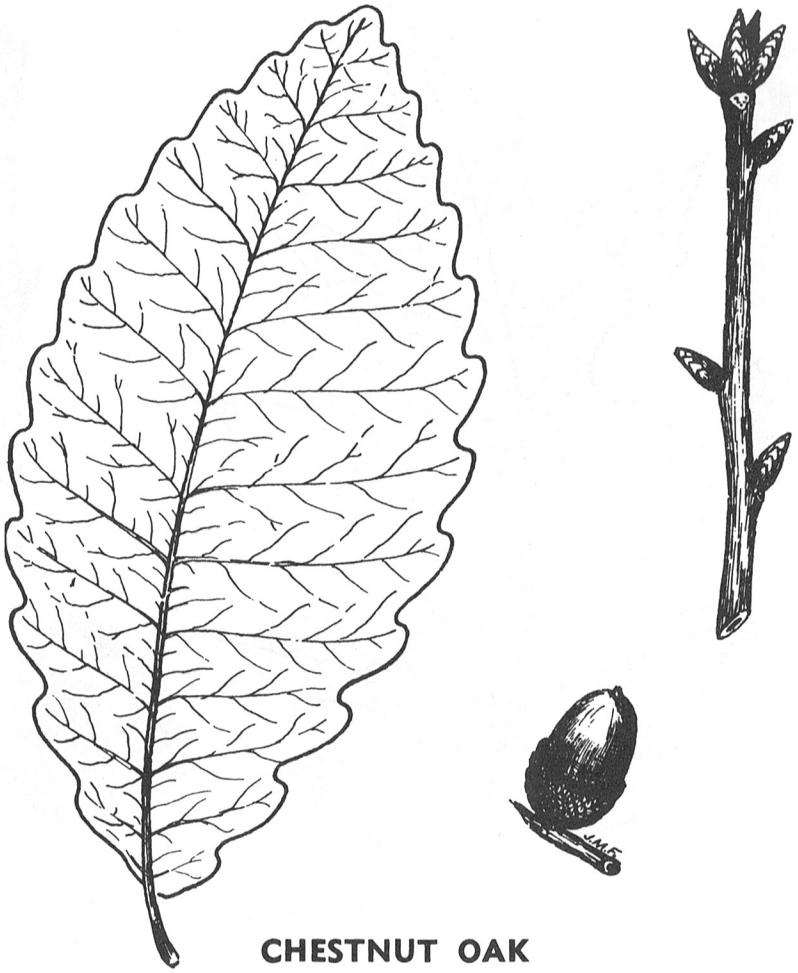
(Quercus alba)

LEAVES: Simple, alternate, 6″—9″ long, 5—9 *rounded lobes,* not bristle-tipped, smooth above and below. Violet-purple in autumn.

TWIGS: Red-gray, often with a grayish coating. *Buds* rounded, reddish brown, smooth, small; end bud about 1/8″ long, often with gray margins on the scales.

FRUIT: A sweet acorn, 3/4″—1″ long; *cup* bowl-like, enclosing 1/4 of the nut; *cup scales* warty.

GENERAL: *Bark* gray, usually with shallow fissures and flat scaly ridges but occasionally roughly ridged without scales. A *large* and valuable tree. *Wood* uses similar to those of red oak; in addition, used extensively for liquid containers, including whiskey barrels.



CHESTNUT OAK

(Quercus montana)

Leaves: Simple, alternate, 4″—8″ long, thick; *large rounded teeth,* decreasing in size toward the leaf tips; dark green and smooth above, paler and occasionally downy beneath.

Twigs: Orange-brown to red-brown. *Buds* light brown, edges of scales lighter colored, sharp-pointed, ¼″—½″ long.

Fruit: An *acorn,* 1″—1½″ long. Cup thin, enclosing ⅓ of the shiny nut; cup scales knobby. Kernel moderately sweet.

General: *Bark* at first gray and smooth, later brownish gray to dark gray, thick, tough, deep-fissured; rich in tannin. A *medium*-sized tree, found mainly on poorer soils of hillsides and rocky ridges. *Wood* of better-formed trees has same uses as the other oaks. Also known as *rock oak.*

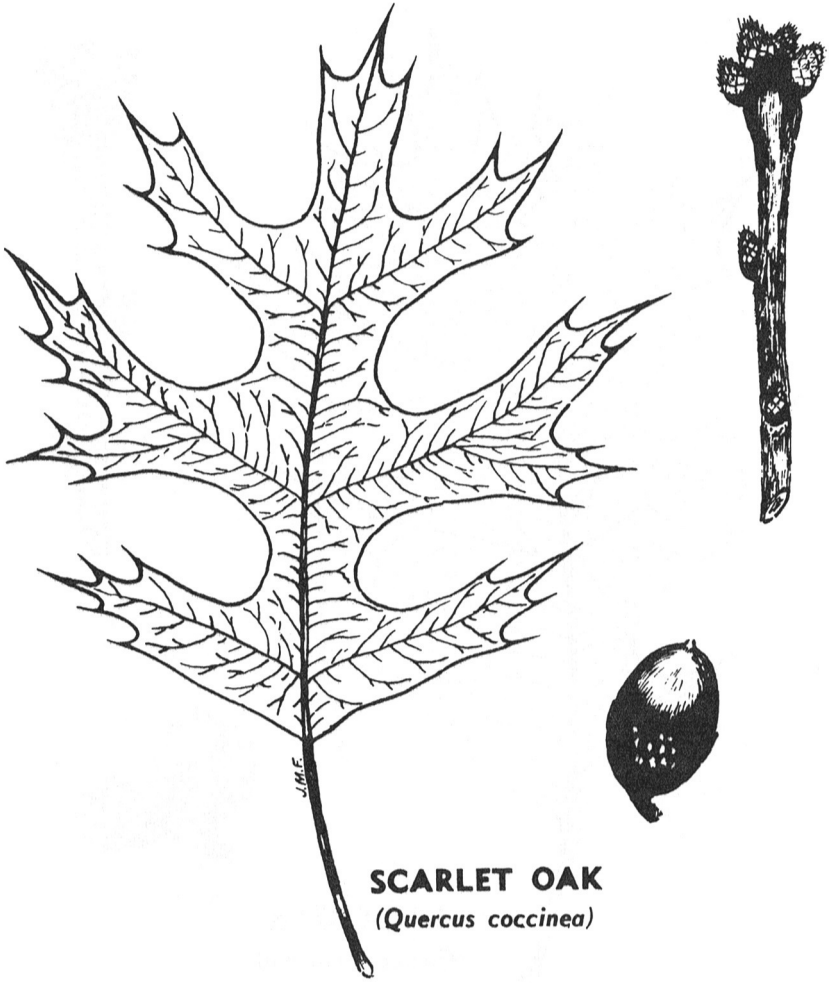
EASTERN RED OAK
(Quercus borealis maxima)

LEAVES: Simple, alternate, 5″—8″ long, 7—11 lobes, bristle-tipped; smooth above and below, but occasionally with small tufts of reddish brown hair beneath.

TWIGS: Greenish brown to reddish brown. *Buds* pointed, light brown, smooth.

FRUIT: An *acorn*, ¾″—1¼″ long; cup usually saucer-shaped, about an inch in diameter, covers only ¼ of the nut; *cup scales* reddish brown, narrow, tight, sometimes fuzzy on the edges. Kernel bitter as is true of the next 3 species of oaks.

GENERAL: *Bark* brown and gray, with smooth flat-topped ridges separated by shallow fissures when older. A *large* and rapid-growing tree. Often planted for shade. *Wood* has many uses; principally utilized for flooring, railroad ties and construction lumber.



SCARLET OAK

(Quercus coccinea)

LEAVES: Simple, alternate, 4″—7″ long, 7—9 rather narrow, bristle-tipped lobes; smooth except for small tufts of hair beneath. Very deep spaces between lobes. Generally turn scarlet in autumn.

TWIGS: Reddish brown, smooth when mature. *Buds* blunt-pointed, usually round in cross section, dark reddish brown; *upper half wooly.*

FRUIT: An *acorn,* ½″—1″ long, kernel white; *cup* thin, bowl-like, covering about ½ of the nut; *cup scales* sharp-pointed, smooth, tight.

GENERAL: *Bark* on young trees, smooth, light brown; on older trunks ridged, darker. *Inner bark reddish.* Drooping dead lower branches persist for many years. A *medium* to *large*-sized tree, commonly found on dry soils. *Wood* inferior to red oak, but often sold under that name.

BLACK OAK

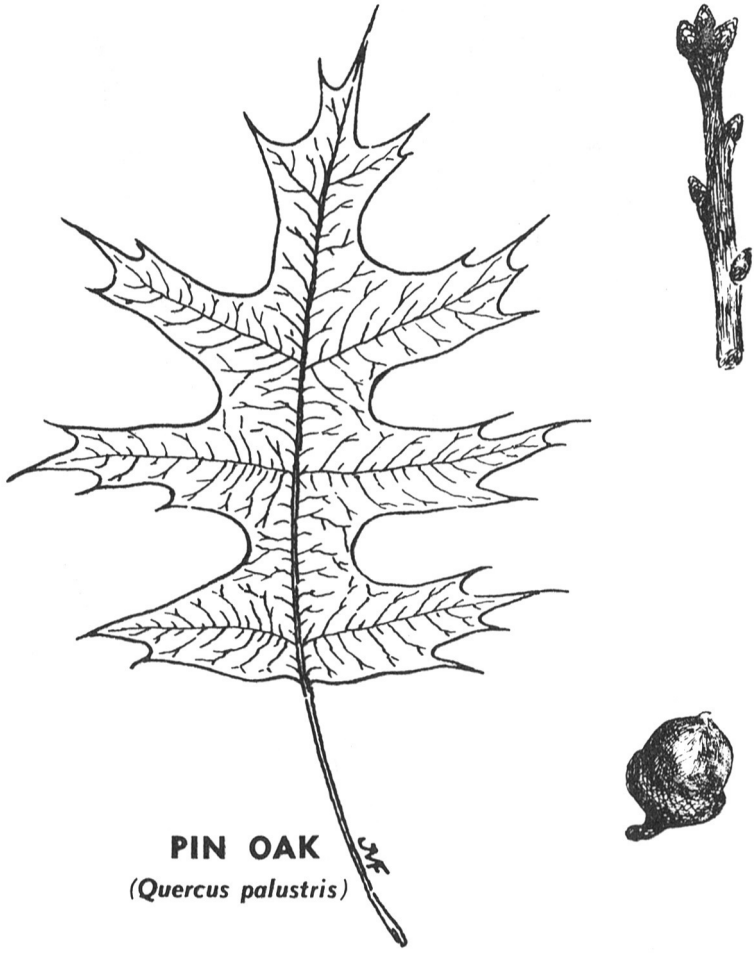
(Quercus velutina)

Leaves: Simple, alternate, 5″–9″ long, 5–7 lobes, bristle-tipped; dark green and usually shiny above; paler, *more or less covered with rusty-brown fuzz beneath.* Yellowish brown in autumn. Often confused with those of scarlet oak.

Twigs: Reddish brown, usually fuzzy. *Buds* blunt-pointed, ridged, yellow-gray, wooly.

Fruit: An *acorn,* about ¾″ long, kernel yellow; *cup* bowl-like, covering from ⅓ to ½ or more of the nut; *cup scales* sharp-pointed, form a loose fringe at the rim, covered with whitish wooly hairs.

General: *Bark* on young stems smooth, dark brown; on older trunks dull black, furrowed, forming irregular blocks. *Inner bark orange-yellow.* A *medium* to *large*-sized tree. *Wood* has the same uses as that of red oak.



PIN OAK

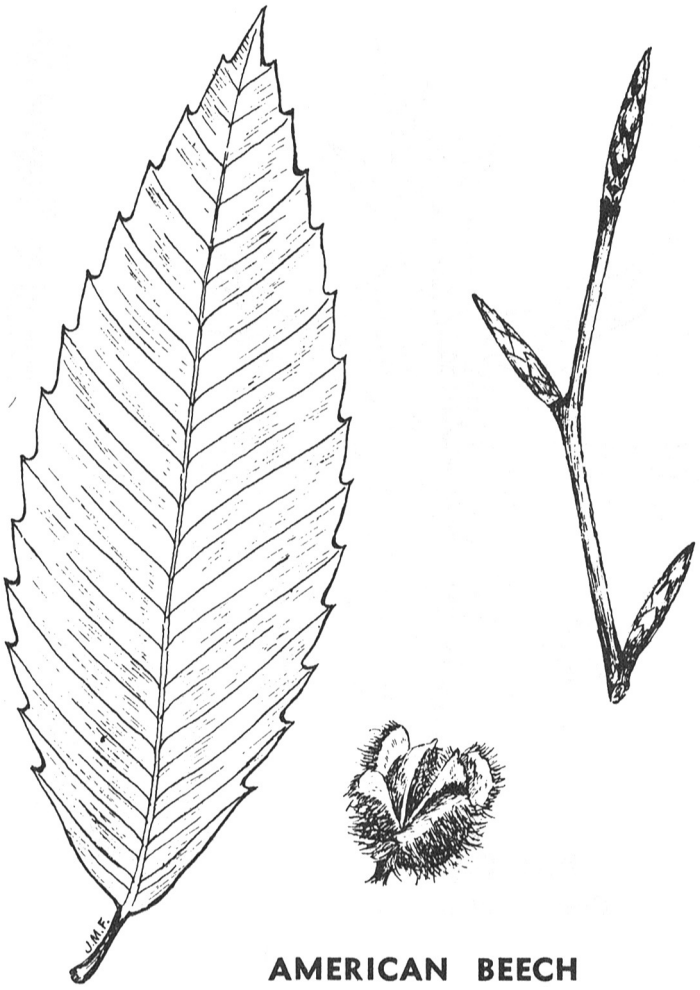
(Quercus palustris)

Leaves: Similar to those of scarlet oak but generally smaller, fewer-lobed, with more narrow and deeper spaces between lobes. Smooth on both surfaces.

Twigs: Dark red-brown, shiny, slender, *often thorn-like. Buds* rounded, smooth, smaller than those of scarlet oak.

Fruit: An *acorn,* about ½″ long, often striped with dark lines; *cup* thin, saucer-shaped, encloses about ⅓ of nut; *cup scales* tight, dark-margined.

General: *Bark* grayish brown, rather smooth for many years; old trunks with shallow fissures and narrow flat ridges. *Medium*-sized and highly valued street tree. Frequents wet woodland sites. Has the smallest leaves, buds and acorns of *all* native *oaks.* Drooping dead lower branches persist for many years. *Wood* has same uses as red oak but is less desirable because of numerous branch knots.



AMERICAN BEECH

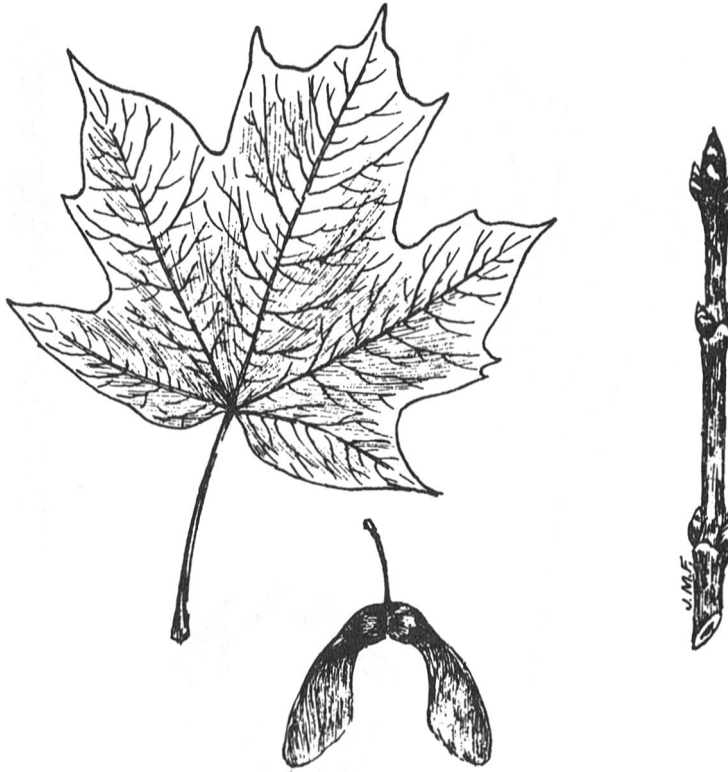
(Fagus grandifolia)

LEAVES: Simple, alternate, 3″—4″ long, sharp-toothed, leathery; light green and glossy above, yellow-green with silky hairs below; veins prominent, parallel. Some leaves often cling to the branches all winter.

TWIGS: Slender, brownish gray. *Buds* reddish brown, sharp-pointed, *cigar-shaped;* end bud ¾″—1″ long.

FRUIT: A shiny brown *triangled* nut, ½″—¾″ long, usually two enclosed in a stalked prickly bur which splits into 4 parts when ripe; edible.

GENERAL: *Bark* smooth, never furrowed, bluish gray throughout life, with dark blotches when older. A *large* tree. Most numerous in the northern part of the State. *Wood* used mainly for railroad ties, paper pulp, boxes, furniture and flooring.



SUGAR MAPLE

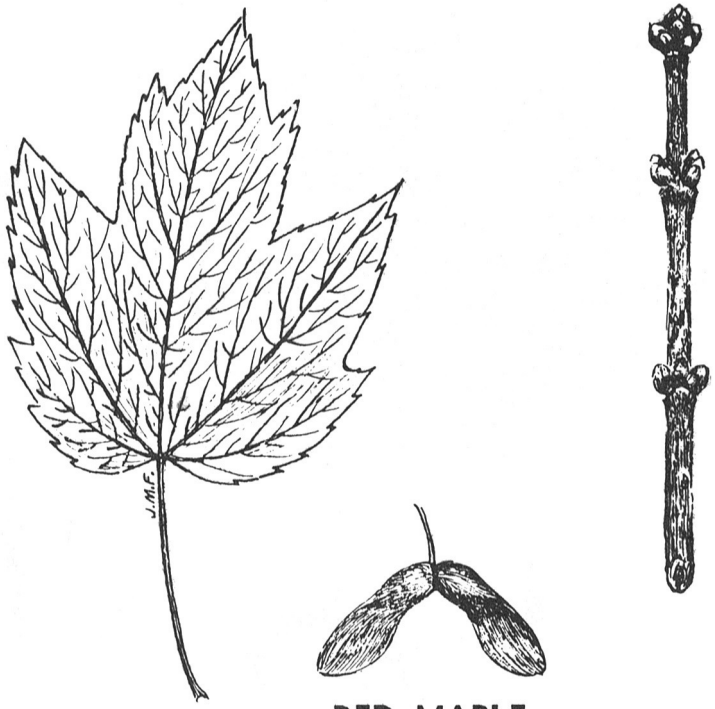
(Acer saccharum)

LEAVES: Simple, opposite, 5-lobed, about 4″ in diameter; smooth, bright green, paler below; margin with few large teeth.

TWIGS: Reddish brown to light brown. *Buds* brown, *sharp*-pointed; narrowly cone-shaped.

FRUIT: Consists of 2 winged seeds on a stalk; borne in clusters, brown, seed wings ½″ to 1″ long, almost parallel to each other; matures in autumn. Fruit stalks and sometimes the seeds persist into the winter.

GENERAL: *Bark* grayish, on older trunks ridged or with long, thick, curled plates. A *large,* long-lived, desirable timber and shade tree. *Wood* used for furniture, flooring; "tapped for sap for making maple syrup." Often called *hard maple.*



RED MAPLE

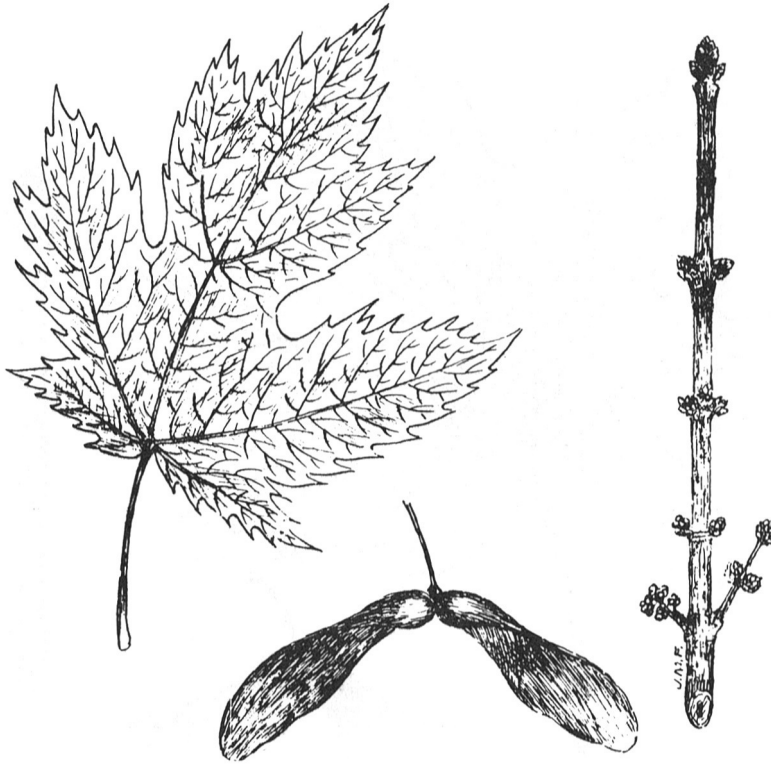
(Acer rubrum)

LEAVES: Simple, opposite, generally 3-lobed; about 4″ in diameter; margin with many small teeth.

TWIGS: Shiny, green when young, becoming red, with numerous light spots (lenticels). *Leaf buds* dark red, blunt-pointed; *flower buds* round, clustered.

FRUIT: Paired winged seeds suspended on a slim stem; reddish brown; wing 1″ or less in length; matures in late spring.

GENERAL: *Bark* on young trees gray and smooth, on older trees becoming darker and with long scaly ridges. A *medium*-sized tree. Common on both swampy and dry sites. A showy tree, usually with reddish flowers and reddish fruit in the spring, and crimson leaves in autumn. *Wood* has uses similar to those of sugar maple except where strength and hardness are of importance. Often called *soft maple*.



SILVER MAPLE

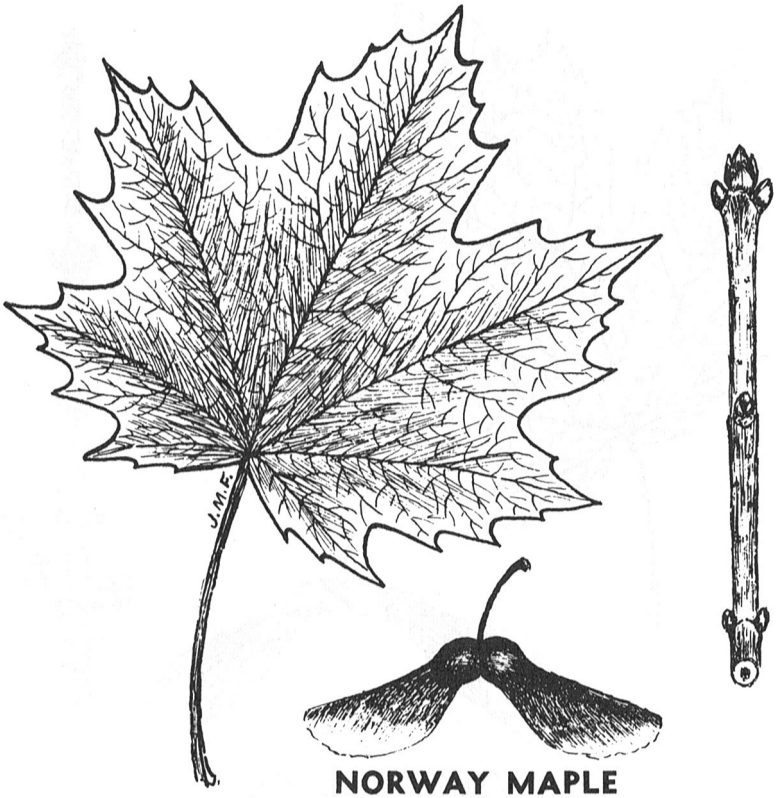
(Acer saccharinum)

Leaves: Simple, opposite, 5-lobed, very deep spaces between lobes, teeth coarse; about 5″ in diameter, *silvery* below.

Twigs: Green in early spring, turning orange-brown, with many light colored dots (lenticels). Distinctive odor when broken. *Buds* of two distinct types: the small pointed leaf buds toward end of twig, and rounded, clustered flower buds below. Lower branches with up-turned tips.

Fruit: Largest of the native maples; wings may be 2″ long, curving inwards; matures in spring.

General: *Bark* on young trees smooth and gray; on older trees broken into long, narrow loose strips. A *medium*-sized tree usually found along streams. Sometimes planted as a shade tree. *Wood* has uses similar to those of red maple. This species is classed as a soft maple.



NORWAY MAPLE

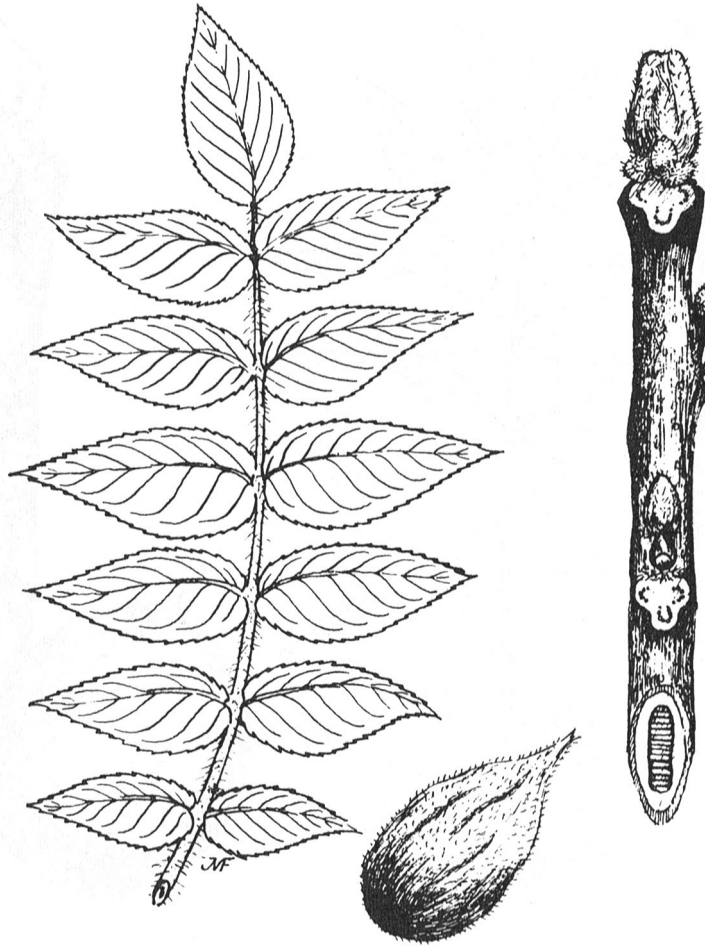
(Acer platanoides)

LEAVES: Simple, opposite, generally 7-lobed, 4½"–5" in diameter. *Milky sap* is evident after breaking the *leaf stem*. Leaves are heavier and thicker than those of sugar maple.

TWIGS: Stout, reddish brown. *Buds* red and green blunt; end bud much larger than side ones; *bud scales* with keel-like ridges.

FRUIT: Wings wide-spreading, larger than those of sugar maple. Matures in autumn.

GENERAL: *Bark* on young tree light brown, smooth; on older trees it becomes closely fissured but not scaly, dark in color. A tree of *medium-size*. *Imported* from Europe and planted extensively as a street tree. The leaves are often attacked by an aphid insect which produces quantities of a sticky substance, spotting vehicles and sidewalks. This species is classed as a soft maple.



BUTTERNUT

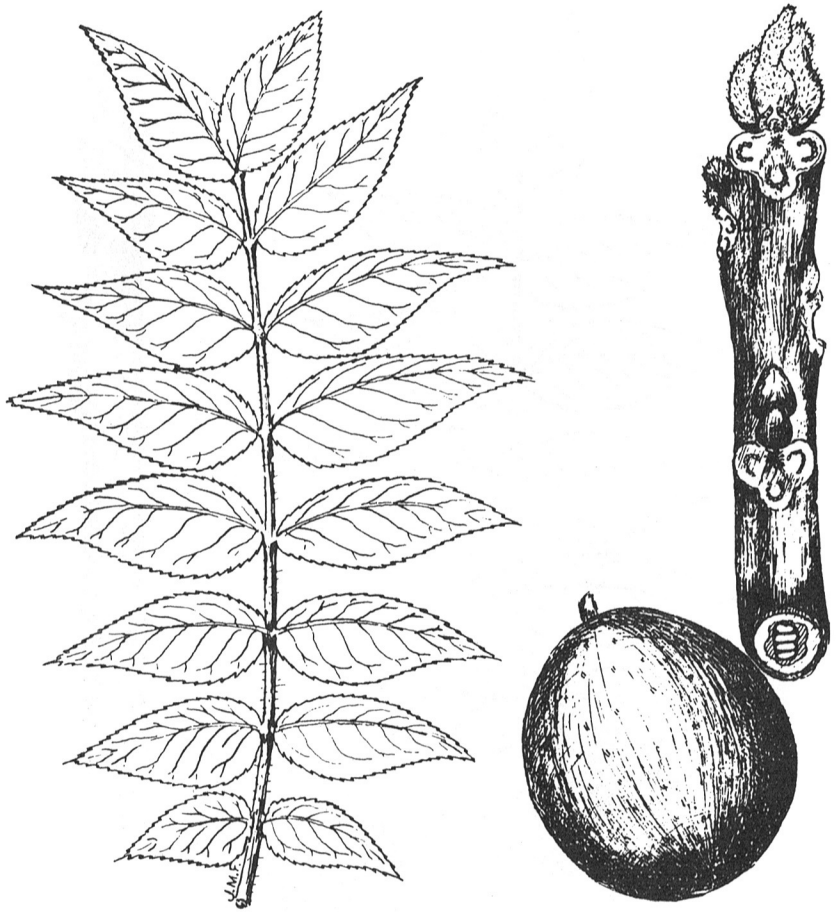
(Juglans cinerea)

Leaves: Compound, alternate; *leaflets* 11 to 17, each 3″—5″ long, small-toothed; dark yellow-green above, paler, hairy below. End leaflet same size as side leaflets. Main *leaf-stem* with conspicuous sticky hairs. One of the last trees to unfold its leaves in spring, and the first to shed them in autumn.

Twigs: Stout, greenish-gray to tan, rough, brittle. *Pith chocolate-brown, chambered. Buds* light brown, hairy, not covered with scales; end bud ½″—¾″ long, side buds smaller. Fringe of short hairs between leaf-scar and bud.

Fruit: An oblong *nut,* 1½″—2½″ long, covered with a hairy, *sticky husk.* Nut pointed at one end, shell rough, oily kernel *sweet.*

General: *Bark* on young trunks rather smooth, light-gray; later darker, deeply furrowed with wide, smooth, flat-topped ridges. A *small* to *medium*-sized tree. *Wood* used chiefly for furniture, instrument cases, and boxes. Also called *white walnut.*



EASTERN BLACK WALNUT

(Juglans nigra)

LEAVES: Compound, alternate; leaflets 15 to 23, each 3″—4″ long, small-toothed; dark yellow-green above, paler, hairy below. *End leaflet absent or very small.* Main *leaf-stem* with very fine hairs.

TWIGS: Stout, orange-brown to dark brown, roughened by large leaf scars, easily broken; pith pale brown, chambered. *Buds* gray, downy; side buds 1/6″ long, end bud larger.

FRUIT: A round *nut,* 1″—2″ in diameter, shell rough, covered with a thick, almost smooth, green *spongy husk;* oily kernel *sweet. Flowers* in drooping green catkins, appearing with the unfolding leaves, which is also true of butternut.

GENERAL: *Bark* dark brown to gray-black, with narrow ridges. A *large*-sized tree, found locally on rich soils mainly in the southern part of the State. *Wood* valuable for quality furniture, veneer, gun stocks and musical instruments.

SHAGBARK HICKORY

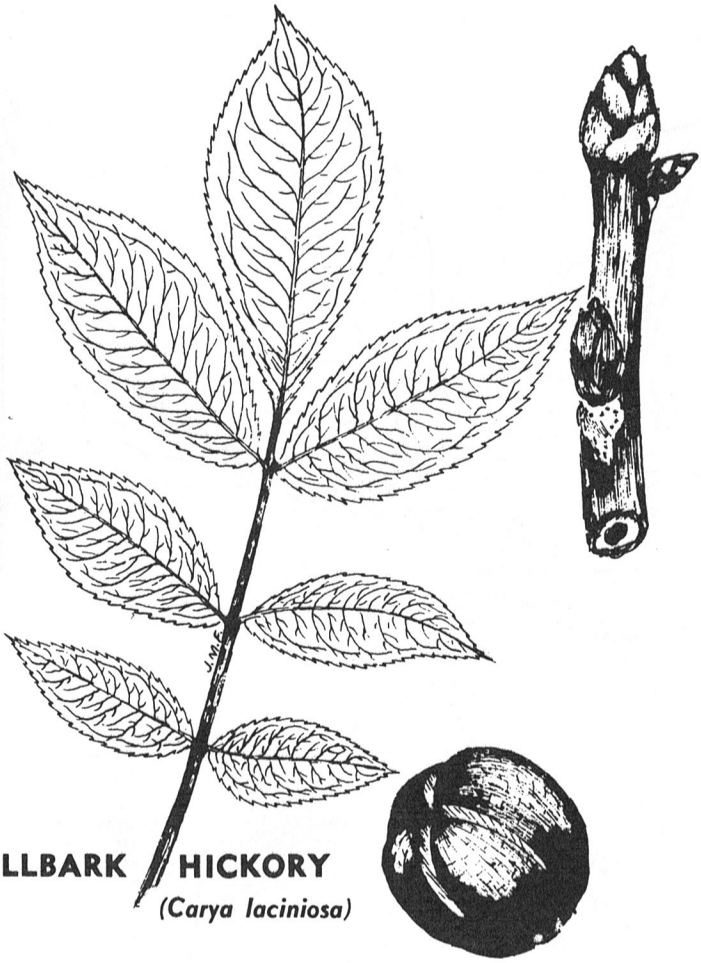
(Carya ovata)

Leaves: Compound, alternate; *leaflets* usually 5, each 4″ to 7″ long, the lower pair smallest, margins fine-toothed; fragrant when crushed. Larger than those of pignut hickory, with which it is sometimes confused.

Twigs: Stout, often hairy, gray-brown to reddish brown, with numerous light spots (lenticels). *Buds* large, with 3–4 outer dark brown, loosely fitting, nearly smooth scales; inner scales velvety; *end buds* ½″–¾″ long.

Fruit: Nearly round, 1″–2½″ in diameter; husk thick, splits into 4 pieces when ripe; *nut* white, *4-ridged,* pointed at one end, usually *thin-shelled;* kernel *sweet.*

General: *Bark* at first smooth and gray, soon breaking into long and loosely-attached plates that gives the trunk a shaggy appearance. A *medium*-sized tree found on a variety of sites but most common on good soils; grows slowly. *Wood* used principally for tool handles. The wood of all hickories is valuable to the farmer for fuel and smoking meat.



SHELLBARK HICKORY

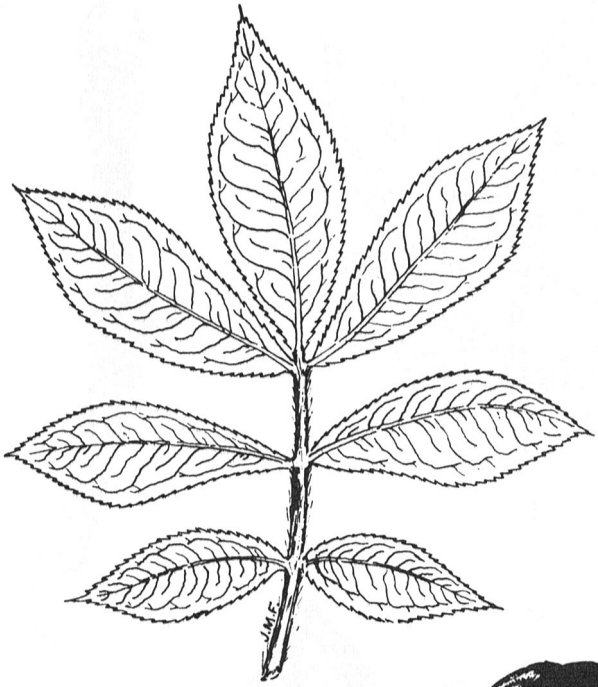
(Carya laciniosa)

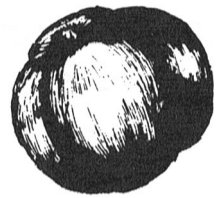
Leaves: Compound, alternate; *leaflets* usually 7, each 4″—7″ long, hairy beneath, margins fine-toothed. Dried *leaf-stems* often cling all winter.

Twigs: Somewhat stouter than shagbark hickory, usually hairy, often angled, orange-brown, with numerous orange spots (lenticels). *Buds* very large, with 6–8 outer dark brown, loosely fitting keeled scales; *end buds* ¾″—1″ long. Prominent orange-colored *leaf scars.*

Fruit: Nearly round to almost egg-shaped, 1¾″—2½″ long; *husk* thick, splits into 4 pieces when ripe; *nut* yellowish white to reddish brown, *4- to 6-*ridged, pointed at both ends, usually *thick-shelled;* kernel *sweet. Flowers* appear in catkins, as do all the hickories, when leaves are mature.

General: *Bark* like that of shagbark hickory but often with straighter plates (less shaggy). A *medium*-sized tree that prefers wet soils. *Wood* has same uses as shagbark hickory.





MOCKERNUT HICKORY

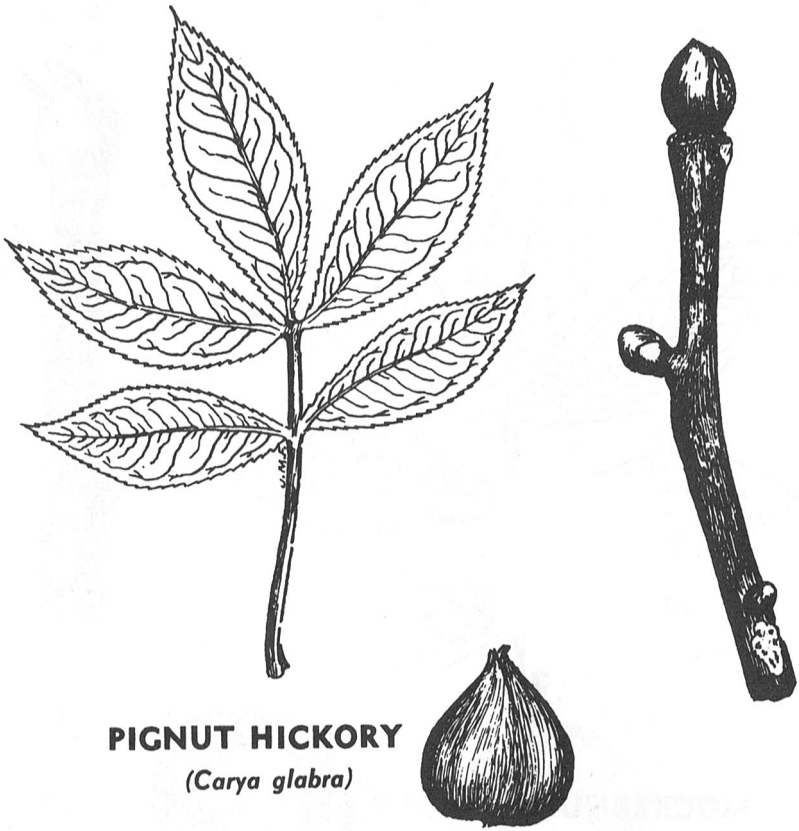
(Carya tomentosa)

Leaves: Compound, alternate; *leaf-stems with fine hairs; leaflets* 7 to 9, each 4″—8″ long, margins finely to coarsely toothed; golden glandular dots beneath; *very fragrant* when crushed.

Twigs: Stout, hairy, reddish brown to brownish gray, with numerous pale spots (lenticels). *Buds* large, egg-shaped, with 3—5 outer yellowish brown, densely hairy scales; *end buds* ½″—¾″ long. *Leaf scars* distinctly 3-lobed.

Fruit: Nearly round to egg-shaped, 1½″—2″ long; husk thick, splits into 4 pieces when ripe; *nut* reddish brown, *slightly ridged, thick-shelled; kernel* sweet.

General: *Bark* gray to dark gray, tight; irregularly shallow-fissured when older. A *medium*-sized tree found mostly in the southern part of the State. *Wood* has same uses as shagbark hickory.



PIGNUT HICKORY

(Carya glabra)

Leaves: Compound, alternate; *leaflets* usually 5, each 3″–6″ long; margins fine-toothed. Entire leaf smooth. Averages smaller than shagbark hickory.

Twigs: Medium-stout, not hairy, reddish brown, with numerous pale spots (lenticels). *Buds* egg-shaped and pointed, smallest of the native hickories, with more than 6 scales; outer scales often fall off during the winter, *end buds* ¼″–½″ long.

Fruit: Usually pear-shaped, 1″–2½″ long; *husk* thin, remains closed or splits partly when ripe; *nut* brownish white, *not ridged,* usually *thick-shelled; kernel sweet but with bitter after-taste.*

General: *Bark* gray to dark gray, usually tight; shallow fissured when older. A *medium*-sized tree of drier locations. *Wood* has same uses as shagbark hickory.

BITTERNUT HICKORY

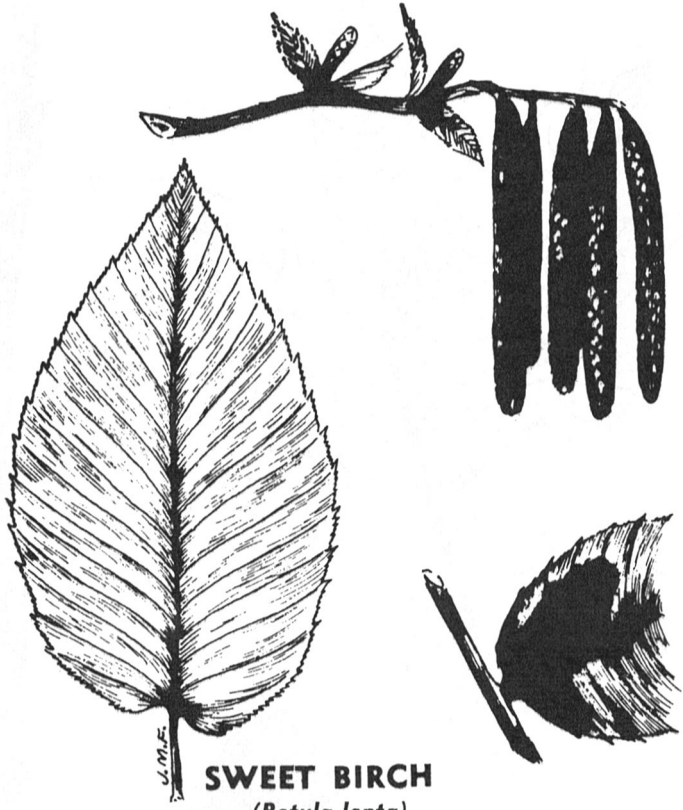
(Carya cordiformis)

Leaves: Compound, alternate; leaf-stem slender, somewhat downy; *leaflets* 7–11, each 3″–6″ long, narrow margins finely to coarsely toothed.

Twigs: Medium-stout, smooth, orange-green to gray-brown, with numerous pale spots (lenticels). *Buds* covered with 4 *sulphur-yellow,* gland-dotted scales, *end buds* 1/3″–3/4″ long, *flattened.*

Fruit: Nearly round, 3/4″–1 1/2″ in diameter; *husk* thin, yellowish gland-dotted, splits about to the middle into 4 sections when ripe; *nut* light reddish brown or gray-brown, not ridged, *thin-shelled;* kernel with red-brown skin, *bitter.*

General: *Bark* gray, tight; remains rather smooth for many years; with narrow ridges when older. A *medium*-sized tree, usually found near streams; grows more rapidly and its wood is lighter than any of the other native hickories. *Wood* has same uses as shagbark hickory.



SWEET BIRCH

(Betula lenta)

Leaves: Simple, alternate, about 3½" long, unevenly saw-toothed; dull green above, yellow-green beneath, with some white hairs at the points where veins join; usually heart-shaped at the base.

Twigs: Green and somewhat downy when young, becoming red-brown, smooth and shiny. *Strong wintergreen flavor. Buds* reddish brown, sharp-pointed, shiny.

Fruit: A very small winged *nut.* These nuts, together with small scales, form a cone-like structure about 1½" long. Sketch shows twig in spring with male and female flowers. All birches have similar fruiting structures.

General: *Bark* on young trees dark reddish brown, tight, marked with pale horizontal lines (lenticels), resembling bark of young black cherry; becoming black and breaking into large plates. *Medium*-sized tree. *Wood* used chiefly for furniture, boxes, and other containers. Distillation of the bark and twigs produces "oil-of-wintergreen." Also known as *black birch.*

YELLOW BIRCH

(Betula lutea)

LEAVES: Simple, alternate; similar to sweet birch but base usually rounded.

TWIGS: Like sweet birch but paler, and more downy when young. *Wintergreen flavor faint. Buds* slightly downy, dull, yellowish brown. Sketch shows winter twig with lateral buds and partially grown female flowers.

FRUIT: Similar to sweet birch.

GENERAL: *Bark* on very young trees golden gray, shiny; later yellow, forming ragged ends which curl and can be readily peeled in thin, narrow strips, highly inflammable, and ideal to start a fire under wet conditions. On very old trunks bark becomes darker, coarse and platy. A *medium* to *large* tree. Found mostly in the northern part of the State. *Wood* principally used for furniture, interior finish, boxes and other containers.

RIVER BIRCH

(Betula nigra)

Leaves: Simple, alternate, 1½″—3″ long, dark green above, yellow-green below, wedge-shaped at the base, margins usually with large teeth.

Twigs: Slender, at first greenish and hairy, later turning reddish brown, smooth; with pale horizontal lines (lenticels). *Buds* sharp-pointed and shiny, smooth or slightly fuzzy.

Fruit: Similar to sweet birch.

General: *Bark* reddish brown or cinnamon, peeling off in curled, shaggy strips; on older trunks becoming dark colored and rough. *Medium*-sized tree; found almost entirely along the lower reaches of our larger streams. *Wood* lighter, softer, and less valuable than sweet birch and yellow birch.

PAPER BIRCH

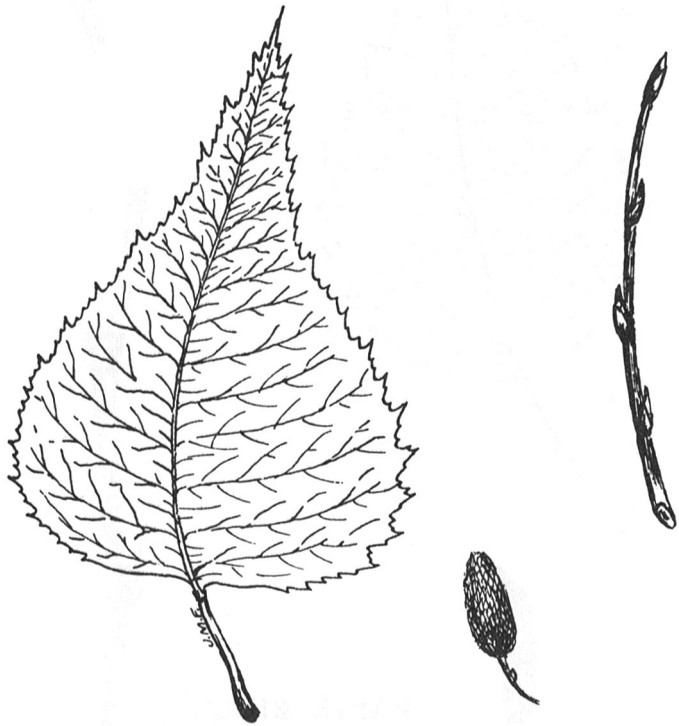
(Betula papyrifera)

LEAVES: Simple, alternate, 2″—3″ long, oval, sharply toothed, dark green above, lighter below.

TWIGS: At early age greenish and fuzzy, later turning dark gray; irregularly marked with raised orange colored dots (lenticels). *Buds* dark brown, sticky. Immature male catkins at the ends of the twigs in autumn and winter, as is true of all the birches.

FRUIT: Similar to sweet birch. Mature in July.

GENERAL: *Bark* creamy. to chalky white, peeling easily. Once the bark is removed, it is not renewed. A *small* to *medium*-sized tree. Often found with several stems growing together, occurring naturally only in the northern part of the State. Also called *canoe birch* and *white birch*. *Wood* has uses similar to those of yellow birch, but principally used for spools, clothespins, toothpicks and paper pulp.



GRAY BIRCH

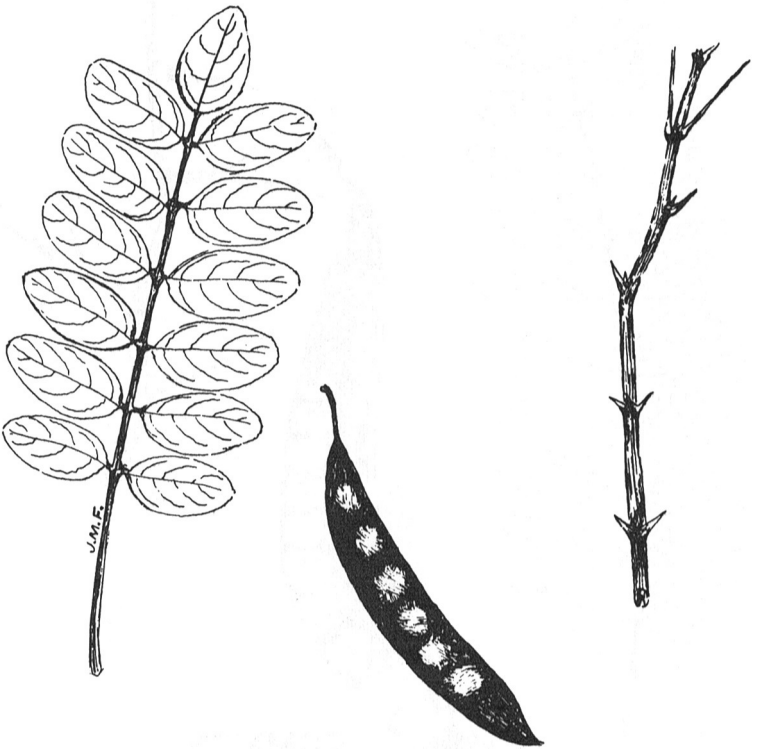
(Betula populifolia)

LEAVES: Simple, alternate, triangular in shape, with long tapering point, 2½″—3″ long, smooth above and below, tremulous. Leaf-stems very slender. Turn yellow in autumn, as is true of all birches.

TWIGS: Slender, greenish brown, rough due to small warty glands. *Buds* sharp-pointed, gummy.

FRUIT: Similar to sweet birch but shorter (¾″ long).

GENERAL: *Bark* dull white, not peeling into thin paper-like layers as is the case with paper birch; dark colored on the branches; orange inner bark. Usually with triangular-shaped black patches on the trunk. A *small* short-lived tree, usually growing in clumps. Occurs chiefly in the northeastern counties. *Wood* of little commercial value; chiefly used for fuel.



BLACK LOCUST

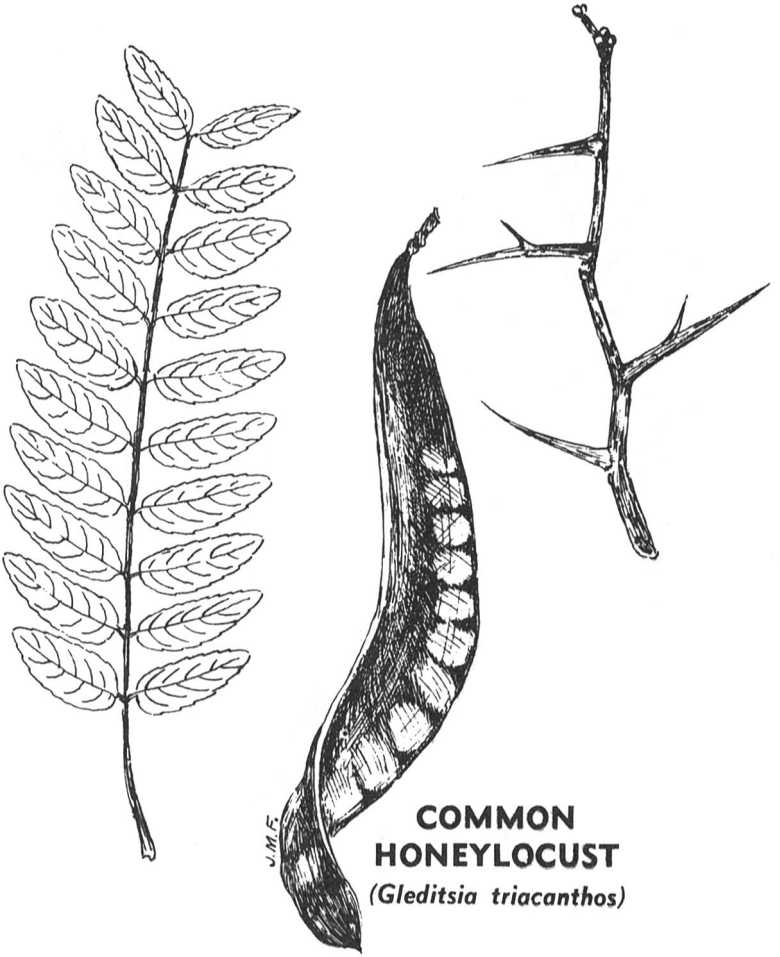
(Robinia pseudoacacia)

LEAVES: Compound, alternate; *leaflets* 1″–2″ long, margins smooth.

TWIGS: Angled, somewhat zigzag, brittle, with short stout prickles; no end bud, side *buds* small and hidden in winter.

FRUIT: A thin, flat *pod,* 2″–4″ long; usually with 4–8 seeds; splits into halves when ripe. Flowers white, showy, very fragrant in drooping clusters, appearing in May and June.

GENERAL: *Bark* rough, furrowed, thick. A *medium*-sized tree. Often seen along farm fences and roads. *Wood* is durable in contact with the soil and in demand for posts, poles, railroad ties, and mine timbers. Unfortunately, several insects and wood rots often cause heavy damage, especially to trees on poor soils.



COMMON HONEYLOCUST

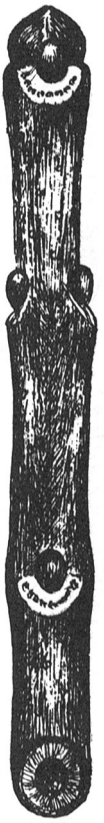
(Gleditsia triacanthos)

Leaves: Compound and doubly-compound, alternate; *leaf-stem* grooved above, hairy; *leaflets* 1″ long, usually fine-toothed on margins.

Twigs: Medium stout, shiny, greenish brown to reddish brown, zigzag, smooth, often with long branched thorns; no end bud, very small side *buds*.

Fruit: A leathery pod, 10″—18″ long, flat, usually twisted, with numerous seeds; often of high sugar content; eaten by some animals. Does not split into 2 halves, as does the pod of black locust.

General: *Bark* on young trees greenish brown with many long, raised, horizontal lines (lenticels); later brown to nearly black, fissured and with thick plates. A *medium*-sized tree; usually found as a native near streams; also planted as a shade tree. Branched thorns on the trunk and limbs make it easy to identify in winter. There is a thornless variety. *Wood* is mainly used for fence posts, general construction, and furniture.



WHITE ASH

(Fraxinus americana)

LEAVES: Compound, opposite; *leaflets* 5–9, each 3″–5″ long, stalked, somewhat silvery beneath; margins entire or with few rounded teeth toward the tip.

TWIGS: Stout, usually smooth, gray-brown, with few large pale spots (lenticels). *Buds* blunt, dark brown. *Leaf scars* half-circular but notched at top.

FRUIT: A *winged seed,* 1″–2″ long, ¼″ wide, shaped like a canoe paddle, in hanging clusters which often remain attached for several months after ripening in autumn.

GENERAL: *Bark* gray-brown, with *diamond-shaped* fissures when older. A *large* tree; trunk usually long and straight; commonly occurring on rich soils. *Wood* important for such special uses as handles, vehicle parts and athletic equipment (practically all baseball bats); valuable for curved parts in furniture.

BLACK ASH

(Fraxinus nigra)

Leaves: Compound, opposite; *leaflets* 7—11, each 3″—5″ long, *not stalked* except end one, dark green above, lighter green beneath with some rusty hairs; margins saw-toothed.

Twigs: Stout, at first somewhat hairy, becoming smooth, gray or red-brown, with many large pale spots (lenticels). *Buds* dark brown to black, end bud pointed. *Leaf scars* nearly circular, with raised margins; not notched at the top.

Fruit: Resembles that of white ash but is usually smaller (1″—1¾″ long and ⅜″ wide).

General: *Bark* grayish, when older becoming corky-ridged or scaly; knobs frequent on the trunk. A *medium*-sized tree that prefers cool, *swampy sites*. *Wood* is generally lighter in weight and weaker than white ash but used for the same purposes.

TULIPTREE

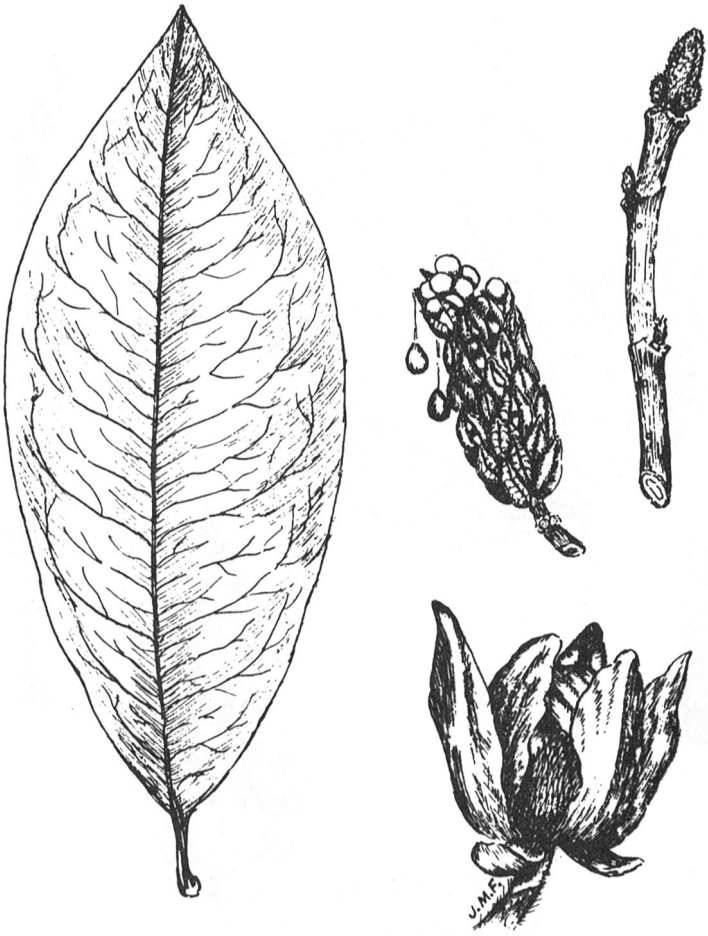
(Liriodendron tulipfera)

LEAVES: Simple, alternate, 4″—6″ in diameter, generally 4-lobed, bright green, turning yellow in autumn.

TWIGS: In spring and summer, green, sometimes with purplish tinge; during winter reddish brown, smooth, shiny. *Buds* large, smooth, flattened, "duck-billed."

FRUIT: At first green, turning light brown when ripe in autumn; *cone-like,* 2½″—3″ long, made up of winged seeds. Greenish yellow *tulip-like* flowers in May or June.

GENERAL: *Bark* at first dark green and smooth; whitish vertical streaks soon appearing; later dark gray and furrowed. A *large* tree, the *tallest* of the eastern hardwoods. It grows rapidly and is an important timber and shade tree. The *wood* is valuable for veneer and many other uses. Also known as *tulip poplar.*



CUCUMBERTREE MAGNOLIA

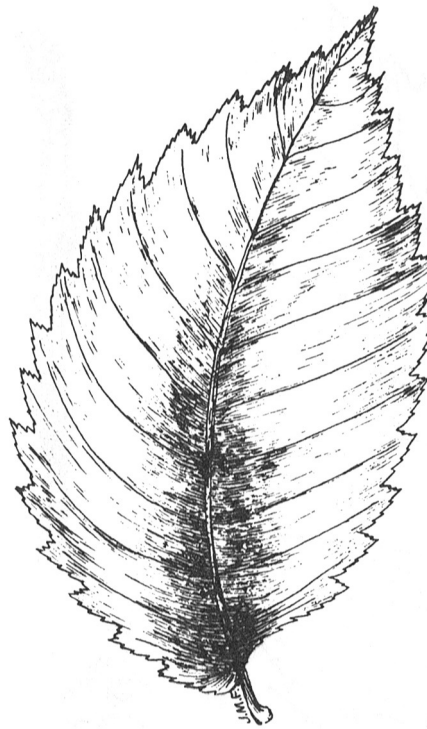
(Magnolia acuminata)

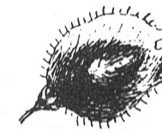
Leaves: Simple, alternate, 4″—12″ long, smooth above, downy beneath; margins smooth or sometimes wavy.

Twigs: Reddish brown, shiny, with peppery smell and taste. *Buds* covered with greenish white silky hairs; end buds ½″—¾″ long. *Leaf scars* horseshoe shaped.

Fruit: When young, like a small green cucumber. When mature in autumn, 3″—4″ long, a cluster of small red pods, each containing two scarlet seeds; often remains attached all winter. *Flowers* large (3″ long), greenish yellow, single, upright; appear from April to June.

General: *Bark* gray-brown to brown, developing long narrow furrows and loose scaly ridges. A *medium*-sized tree, found mainly in the western half of the State. *Wood* used mainly for interior finish, furniture and containers.





AMERICAN ELM

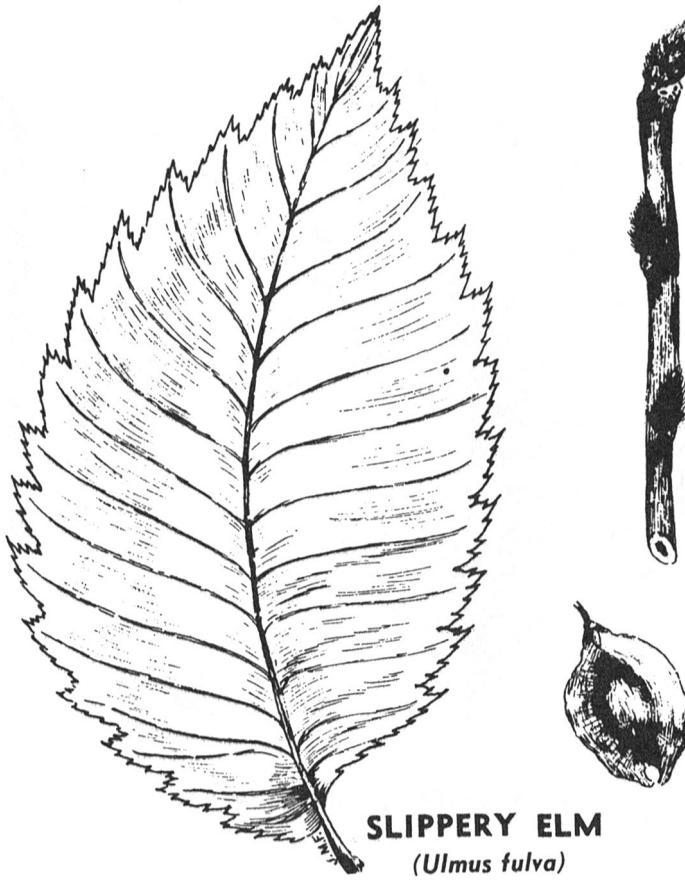
(Ulmus americana)

LEAVES: Simple, alternate, 4″—6″ long, unequal at the base, rather rough on the upper surface; usually *soft-hairy below;* veins prominent; margin coarsely toothed. *Leaf-stem* short.

TWIGS: Slender, zigzag, brown, smooth or slightly hairy. *Leaf buds* 1/8″—1/4″ long, flattened. *Flower buds* larger, below leaf buds. *Bud scales* red-brown, smooth or downy; margins dark.

FRUIT: A seed surrounded by an oval, thin papery wing, 1/2″ long, deeply notched at the tip; ripening in spring and borne in clusters; wing with scattered hairs along margin. *Flowers* and fruit appear before the leaves, as is true of slippery elm.

GENERAL: *Bark* dark gray to gray-brown, with long corky ridges; on older trees separated by diamond-shaped fissures. A *large* and highly prized shade tree. The drooping crown often gives it a *vase-shaped* appearance. Found locally throughout Pennsylvania, mainly on moist areas. The hard, tough *wood* has many uses, including the manufacture of boxes, barrels and furniture.



SLIPPERY ELM

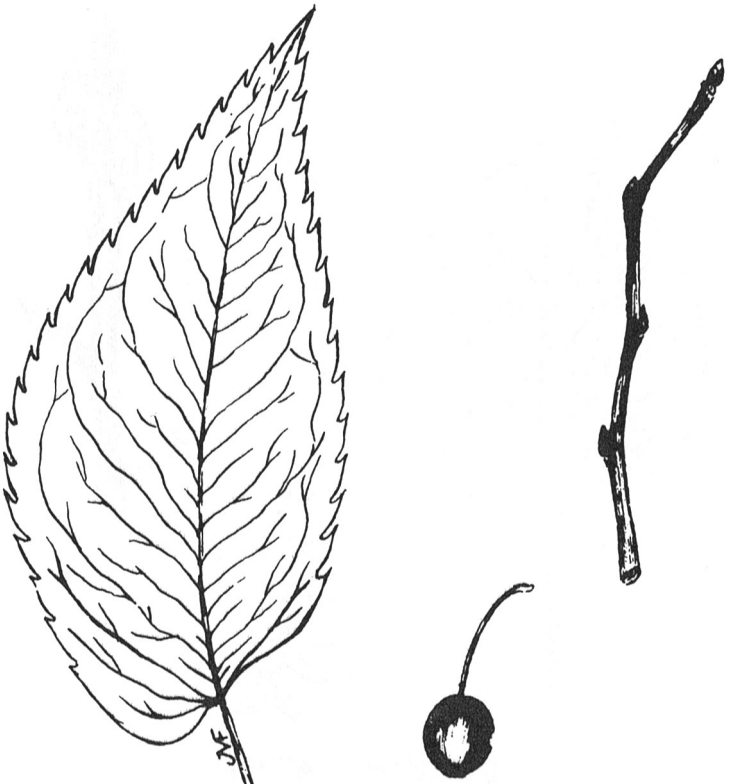
(Ulmus fulva)

Leaves: Simple, alternate, 5″—7″ long; *usually larger than those of American elm, rough on both sides* or soft-hairy below; margin coarsely toothed. *Leaf-stem* short.

Twigs: Stouter than on American elm, *grayish and rather rough. Buds* slightly larger than those of American elm, and more round—seldom flattened. *Bud scales* brown to almost black, rusty-haired.

Fruit: Like that of American elm but somewhat larger (¾″ long); wing margin not hairy and slightly notched at the tip.

General: *Bark* similar to American elm but of lighter color, softer, and fissures not diamond-shaped in outline. *Inner bark sticky and fragrant.* A *medium*-sized tree usually found near streams. Crown does not droop like that of American elm. The *wood* is commonly marketed with the preceding species.



COMMON HACKBERRY

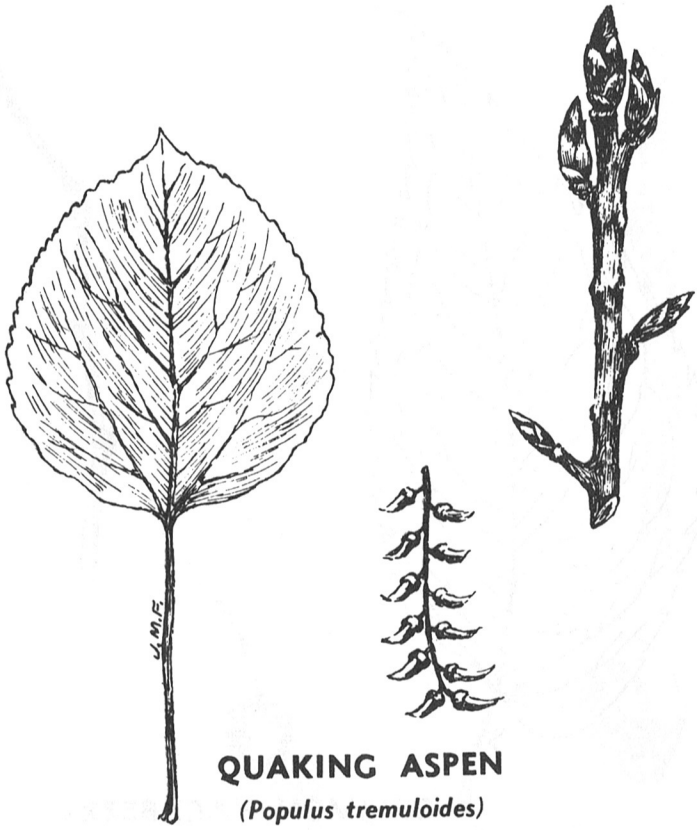
(Celtis occidentalis)

LEAVES: Simple, alternate, 2″—4″ long, slender pointed; margin sharp toothed; base unequal; often rough above, slightly hairy and veins prominent on undersides; *3-veined at base. Leaf-stem* somewhat downy and grooved; fairly long (compared to elm).

TWIGS: Slender, reddish brown, *with chambered white pith. Buds* small, sharp-pointed, closely pressed to the twig.

FRUIT: Resembles a cherry, dark purple in color, ¼″—½″ in diameter, sweet but with very little flesh covering the pitted stone; borne singly on a long slender stem; ripens in autumn.

GENERAL: *Bark* gray-brown with characteristic warty projections or irregular ridges. A *small* tree. "Witches-brooms" are common. Most common on limestone soils in moist locations. Sometimes mistaken for elm. *Wood* used principally for furniture, boxes and other containers.



QUAKING ASPEN

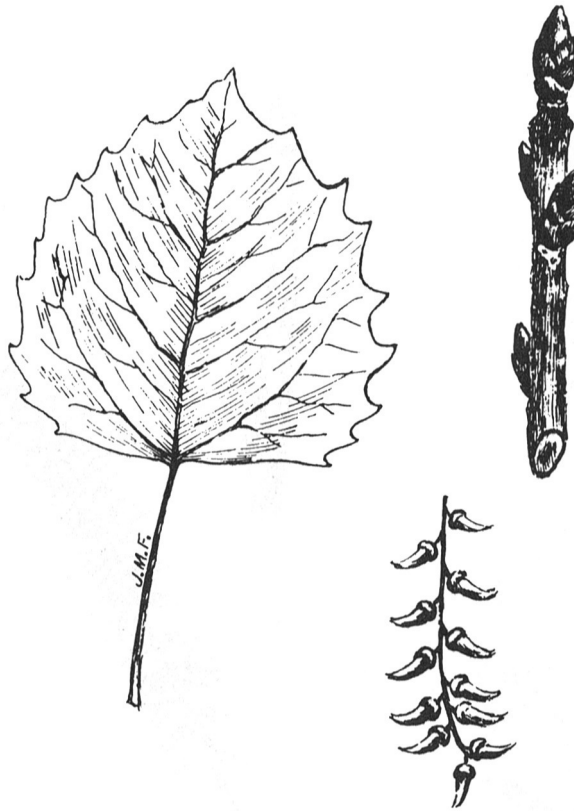
(Populus tremuloides)

LEAVES: Simple, alternate, 1½"–3" in diameter, light green, smooth above and below, nearly circular; margins with fine teeth; leaf-stems thin and flattened, causing the leaves to tremble in the slightest breeze. Yellowish-green when unfolding in spring.

TWIGS: Slender, reddish brown, smooth, shiny. *Pith* star-shaped, white. *Buds* sharp-pointed, smooth, shiny, often curved inward.

FRUIT: A small (¼" long) *capsule* containing 10–12 seeds; capsules spirally arranged on a 4" long drooping stalk, maturing in early summer. Each tiny cottony seed surrounded by long silky threads.

GENERAL: *Bark* thin, pale yellow-green to silvery gray when young, eventually becoming dark brown or gray and rough. A *small* to *medium*-sized tree, of rapid growth but short-lived. Often one of the first forest trees to become established on recently burned areas; the most widely distributed tree of North America. Most common in northern Pennsylvania. *Wood* used chiefly for paper pulp.



BIGTOOTH ASPEN

(Populus grandidentata)

LEAVES: Simple, alternate, 3"—4" long, dark green above, paler below, margins with coarse teeth; *leaf-stems* flattened; silvery when unfolding in spring.

TWIGS: Rather stout, brownish gray, sometimes with a coating of pale, wooly down. *Buds* blunt-pointed, dull, seldom curved, *often wooly*.

FRUIT: Similar to quaking aspen. *Flowers,* in the form of hanging catkins, appear before the leaves in the spring, as is the case with quaking aspen.

GENERAL: *Bark* similar to that of quaking aspen, but usually darker. A *small* to *medium*-sized tree; short-lived. Most common in southern Pennsylvania. *Wood* used chiefly for paper pulp.

BLACK WILLOW

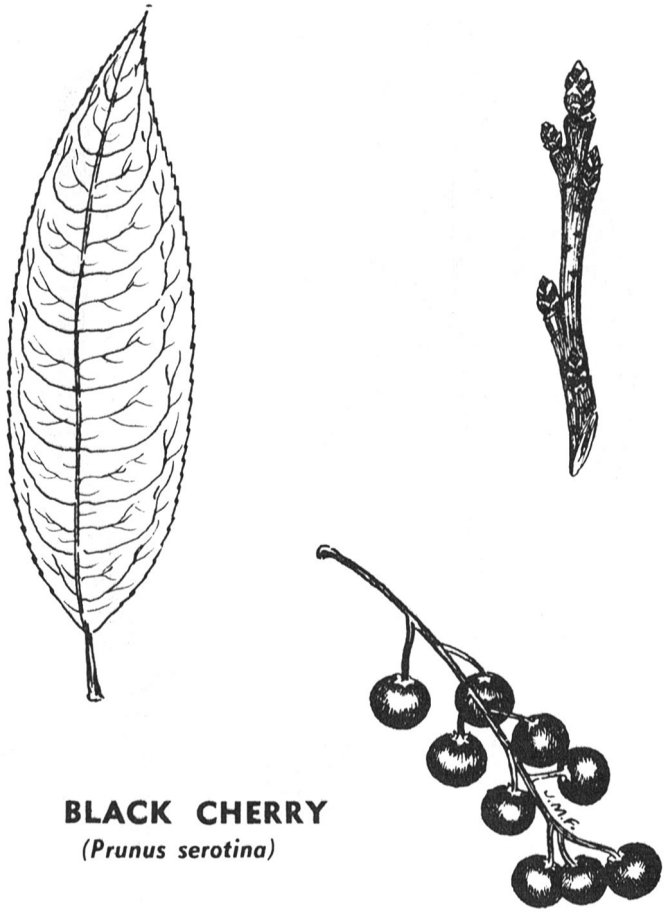
(Salix nigra)

LEAVES: Simple, alternate, long and narrow, short-stemmed, sharp pointed, fine teeth on the margin, average length 3″; dark green above, much lighter below. The *stipules* ("small leaves" at the base of leaf-stems of the main leaves) remain through most of the summer.

TWIGS: Slender, brittle at the base, bright reddish brown to orange-green. *Buds* covered by a single scale, small, cone-shaped, sharp-pointed.

FRUIT: Small brown *capsule*, ¼″ long, borne in long hanging clusters; ripens in May or June. Each tiny *seed* surrounded by tufts of long silky hair.

GENERAL: *Bark* thick, dark brown, separating into broad, flat plates or ridges as the tree grows older. A *small* to *medium*-sized tree. Only native willow which grows to a fair size. Found mainly in moist situations. Often several trunks arise from the same root system. Weeping willow (S. babylonica) and brittle willow (S. fragilis) are introduced trees often planted for ornamental purposes.



BLACK CHERRY

(Prunus serotina)

Leaves: Simple, alternate, narrow, with tapering tip, shiny above, paler below and usually with reddish brown hairs near the base; 2″–5″ long, margins with short incurved teeth.

Twigs: Smooth, reddish brown, often covered with a thin gray coating which peels or rubs off easily; bitter when chewed; with minute, rounded gray lenticels. *Buds* smooth, shiny, sharp-pointed, same color as twigs but often tinged with green.

Fruit: Round, black with a purplish tint, ⅓″–½″ in diameter, containing a single round, stony seed. Arranged in hanging clusters. Flowers white, in 4″-long upright clusters in June.

General: *Bark* on young trunks smooth, dark red-brown, marked with numerous raised horizontal lines (lenticels), somewhat resembling that of sweet birch; later breaking into thick irregular plates with upturned edges. A *large* tree in the northern part of the State; *medium*-sized in the southern counties. *Wood* used chiefly for quality furniture and interior finish.

BLACK GUM

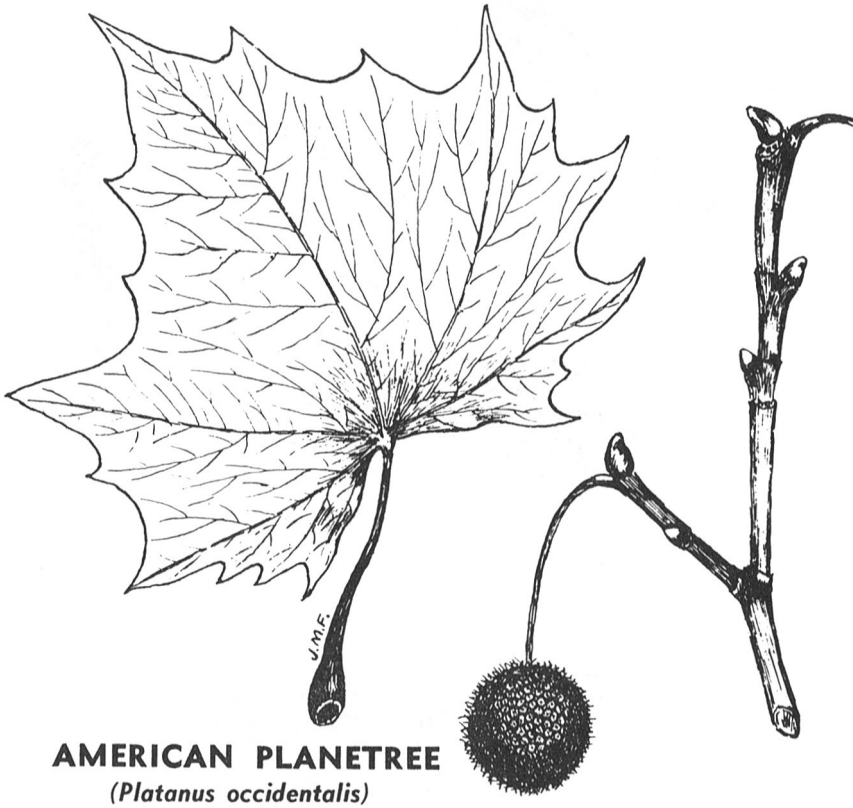
(Nyssa sylvatica)

Leaves: Simple, alternate, 2″–4″ long, entire or wavy margin; dark green and shiny above, often downy on the underside; turning a vivid red in early autumn.

Twigs: Smooth, grayish to reddish brown; the white pith separated by dark lines. *Buds* rounded in cross section, pointed, reddish brown, ¼″ long.

Fruit: Cherry-like, ⅓″–⅔″ long, dark blue, 1-seeded, with thin flesh; borne singly or in 2's or 3's in a cluster; ripens in autumn.

General: *Bark* on young trees smooth or scaly, light gray; on older trunks dark gray, broken into blocks and resembling alligator hide. A *medium*-sized tree, often flat-topped, with horizontal branches and short spur-like twigs. Grows mainly on swampy lands, but found elsewhere. *Wood* very difficult to split; used chiefly for boxes, fuel and railroad ties.



AMERICAN PLANETREE

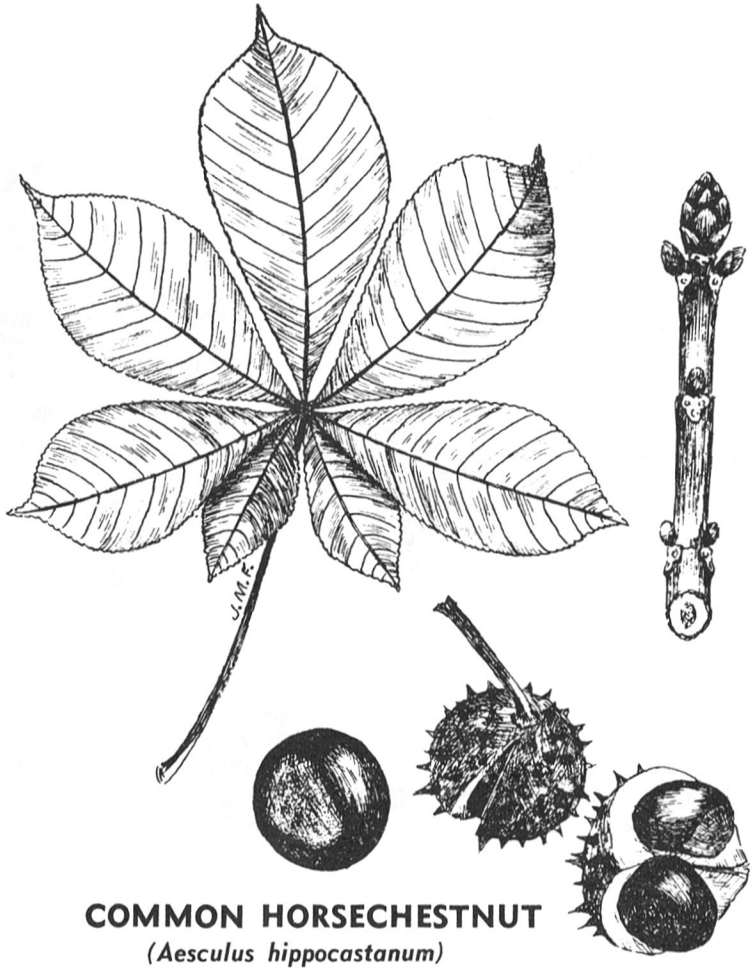
(Platanus occidentalis)

LEAVES: Simple, alternate, 3–5 lobed, 4″–7″ across, generally wider than long; light green above, paler and wooly beneath. Base of *leaf-stem* hollow, enclosing next year's bud.

TWIGS: At first green and hairy, later brownish, smooth; zigzag. *Buds* cone-like with a single smooth, reddish brown scale.

FRUIT: A round "button-ball," single or occasionally in 2's on a tough slender stalk. These fruit clusters are light brown, 1″–1¼″ in diameter, consist of many seeds, each surrounded at the base by silky hairs; usually hang throughout the winter.

GENERAL: *Bark* of two layers, the outer peeling in brown flakes, the inner whitish, yellowish or greenish; on base of old trunks dark brown and fissured. A tree of *large* size; mature trees often very *massive*. Prefers stream banks. *Wood* used for furniture, crates, butcher blocks, and flooring. Also known as American *sycamore*. The London planetree (P. acerifolia), with 2, sometimes 3, "button-balls" on a stalk, is more commonly planted as a shade tree.



COMMON HORSECHESTNUT

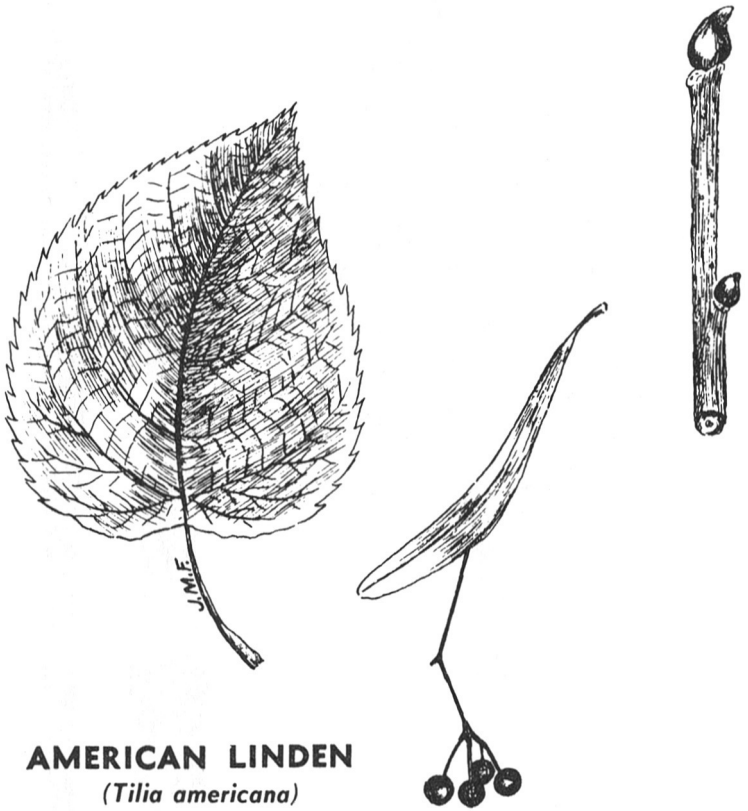
(Aesculus hippocastanum)

LEAVES: Palmately compound, opposite; usually with 7 *leaflets*, each 4″—9″ long, wedge-shaped, long-pointed, smooth when full-grown; turning a rusty yellow in autumn.

TWIGS: Stout, usually not hairy. Buds blackish brown, sticky, large; end bud ½″—1″ long.

FRUIT: Roundish *capsule*, 1½″—2½″ in diameter, green husk with prickles; breaks into three parts when ripe releasing 1 or 2 large, shiny brown, non-edible seeds. *Flower* ¾″ long; showy-white and spotted with yellow and red. *Flower clusters* erect, 8″—12″ long.

GENERAL: *Bark* grayish, broken into thin plates. A *medium* to *large*-sized tree. *Introduced* from Europe and is a common *shade tree* in the State. Leaves are often browned by diseases. Also known as *European buckeye*. Two rather similar trees are native to southern Pennsylvania—Ohio buckeye (A. glabra) and yellow buckeye (A. octandra).



AMERICAN LINDEN

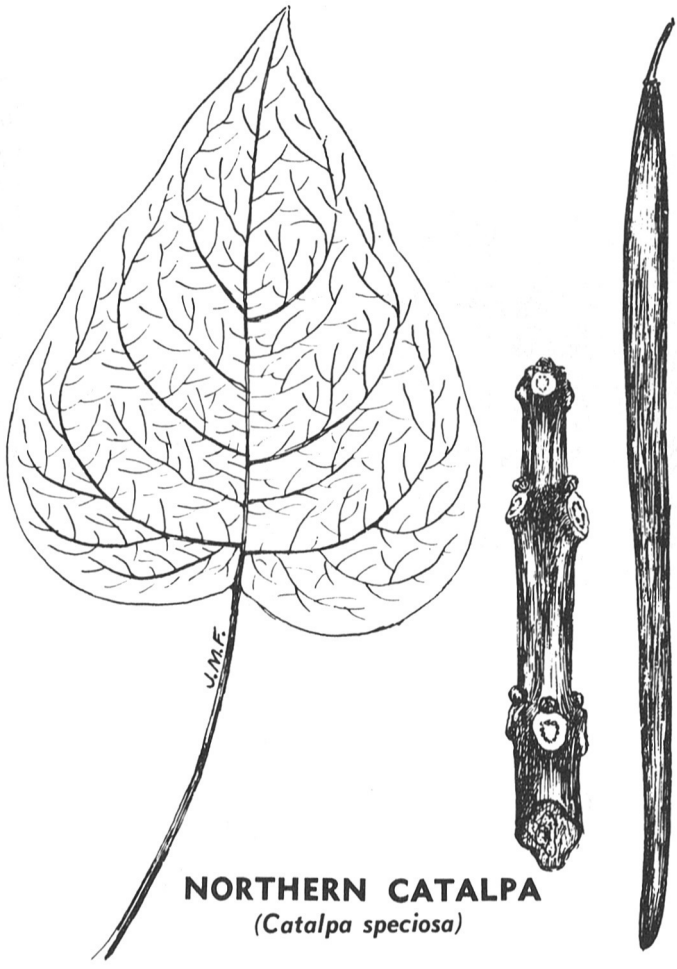
(Tilia americana)

Leaves: Simple, alternate, somewhat heart-shaped; 4″–7″ long, shiny dark green on top, smooth beneath except for tufts of rusty hair; sharply toothed on margin.

Twigs: Green or reddish when young, turning brownish red; usually zigzag. *Buds* deep red to greenish, usually lopsided, with 2–3 visible scales.

Fruit: Nutlike, thick-shelled, downy, about the size of a pea; borne in groups from a long stem attached to narrow leaflike blade or *bract*. The clustered fruit and bracts may remain on the tree until late winter. *Flowers* yellowish white, fragrant.

General: *Bark* on young trunks smooth, tough, dark gray; on older trees broken into narrow, scaly ridges. A *large* tree; usually found in mixture with other hardwoods on moist, rich valley soils. *Wood* is used for a variety of products including boxes, venetian blinds, sashes, doors, picture frames, and furniture. Also known as *basswood*.



NORTHERN CATALPA

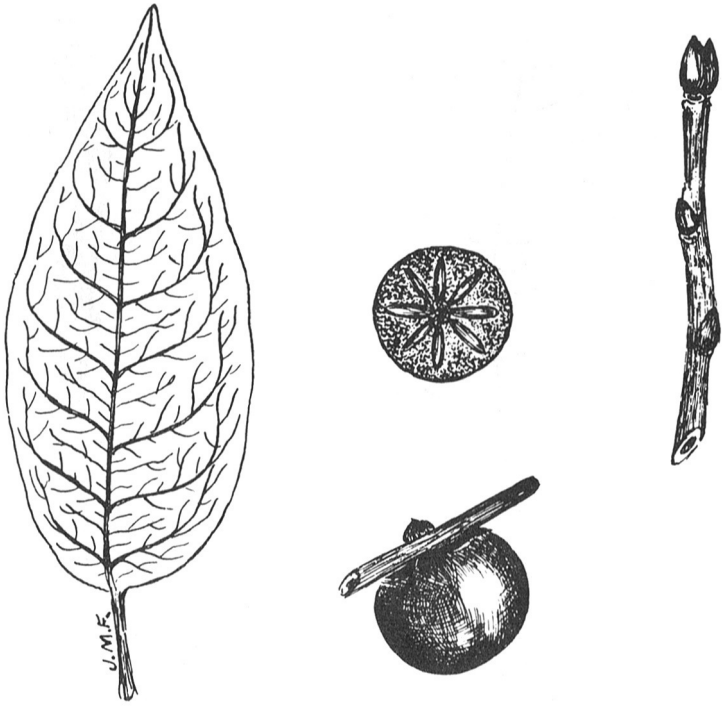
(Catalpa speciosa)

Leaves: In whorls of 3 or more, occasionally opposite, heart-shaped, 8″—12″ long and 6″—8″ wide; margin entire or wavy; smooth above, hairy beneath.

Twigs: Stout, yellow-brown; no buds at the ends. Side *buds* small, appear to be hidden in bark. Large, nearly round, depressed *leaf scars* are characteristic.

Fruit: Bean-like, 8″—18″ long, narrow; pod separates into two halves when ripe, hang on tips of branches all winter; many *seeds,* each with long white hairs on both ends. *Flowers* in July, arranged in July, arranged in terminal clusters about 8″ long; each showy flower white with yellow and purple spots, 2″—3″ in diameter.

General: *Bark* light brown, scaly; slightly furrowed on older trees. A *medium* to *large*-sized tree. Native to the Mississippi Valley. Usually planted for *shade purposes* in this State but its *wood* is durable and useful for posts. The less hardy Southern catalpa (C. bignonioides) with slender pods has also been planted in Pennsylvania.



COMMON PERSIMMON

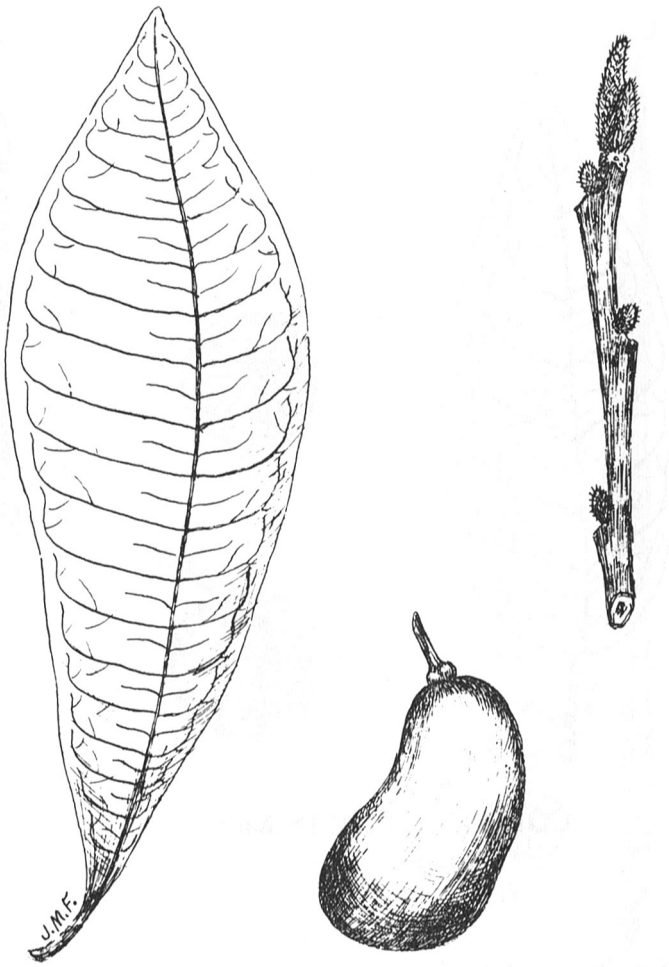
(Diospyros virginiana)

LEAVES: Simple, alternate, 4″–6″ long, dark green and glossy above, paler and often wooly below; margins smooth or wavy.

TWIGS: Grayish brown, smooth, sometimes velvety. *No end bud;* each ***side bud*** covered by 2 glossy dark brown scales.

FRUIT: Fleshy *berry*, large (¾″–2″ in diameter), plum-like, orange to red, parts of the flower remain attached to the base (see sketch); seeds 1–8, flat, rather large. Edible but often *astringent* when fully ripe in autumn.

GENERAL: *Bark* dark gray to dark brown, separated into small blocks by cinnamon-red bottomed furrows. A *small* to *medium*-sized tree native to the southern part of the State. *Wood* hard, tough, used chiefly for special products such as shuttles for weaving, spools, and golf-club heads.



COMMON PAWPAW

(Asimina triloba)

Leaves: Simple, alternate, 5″—12″ long, drooping; somewhat like the leaf of cucumbertree magnolia; dark green above, light green below; margins smooth or wavy.

Twigs: Olive-brown, enlarged at points where leaves are attached, somewhat hairy toward tips. *Buds* brown, hairy, not covered with scales.

Fruit: Looks like a short stubby banana, greenish yellow at first, brown when ripe in autumn, 3″—5″ long, edible; contains numerous brown, shiny *seeds* imbedded in the fragrant outer pulp. *Flowers* greenish-brown to purple, 1″ across, solitary, appear before the leaves.

General: *Bark* dark brown, thin, slightly fissured on older trees, often marked with white blotches. A *small* tree. Generally found in the understory of the forest in the southern half of the State on rich moist soil. The fruit is of more value than its *wood* which is sometimes used for fuel.

COMMON SASSAFRAS

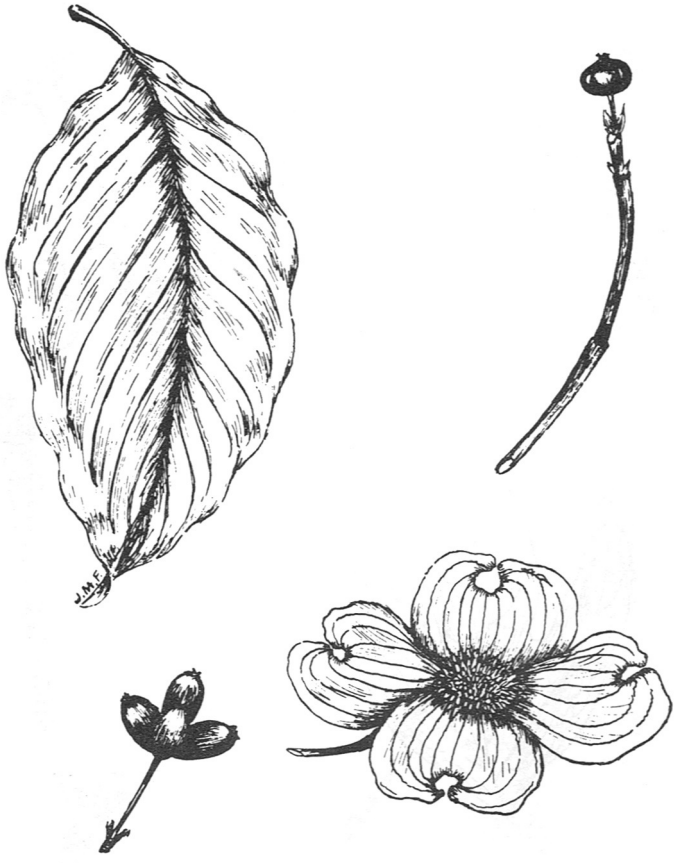
(Sassafras albidum)

LEAVES: Simple, alternate, 4"–6" long, characteristically *aromatic* when crushed. Usually three types can be found on a tree: entire, 2-lobed and 3-lobed (rarely 5-lobed). Smooth, dark green above, much lighter beneath.

TWIGS: Bright green, sometimes reddish, smooth and shiny; large white pith. *End bud* much larger than side ones, with many loose scales.

FRUIT: Cherry-like, dark blue, shiny, about ½" in diameter, on a red stem enlarged at the point of attachment. Borne in clusters. Yellow *flowers* appear before the leaves unfold.

GENERAL: *Bark* on young trees soon becomes furrowed, the greenish bark changing to brown; inner bark salmon colored; older trees show deep fissures extending long distances up the trunk. A *small* to *medium*-sized tree, with crooked branches; often spreading by root suckers. Its roots, leaves, twigs and fruit have a spicy odor; the oil contained in these parts is used for a "tea," in medicines, perfumes, etc. *Wood* used chiefly for fuel and fence posts.



FLOWERING DOGWOOD

(Cornus florida)

LEAVES: Simple, opposite, 3″–5″ long; clustered toward tips of twigs; margins smooth or wavy; veins prominent and curved like a bow. Foliage bright red in autumn.

TWIGS: Red tinged with green, often with a bluish white powdery coating; marked with rings; tips curve upward. *End leaf bud* covered by 2 reddish scales; *side leaf buds* very small; *flower buds* conspicuous, silvery, button-shaped, at ends of twigs.

FRUIT: An egg-shaped *drupe,* ½″–⅗″ long; coat red; flesh yellowish; stone grooved, 2-celled; usually in clusters of 2–5; persist after the leaves fall. *Flowers* greenish white or yellowish, small, in flat-topped clusters; *four showy white bracts* underneath; open before the leaves.

GENERAL: *Bark* red-brown to reddish gray, broken by fissures into small blocks, like *alligator* hide. A *small* native tree with low spreading crown, especially valued for ornamental planting. *Wood* used primarily for textile weaving shuttles. There is a variety with red or pink bracts.

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NOTES

PREPARED BY
J. E. IBBERSON, A. B. MICKALITIS, J. E. AUGHANBAUGH and
C. L. MORRIS

ILLUSTRATIONS BY
J. M. FRANCIS

DEPARTMENT OF FORESTS AND WATERS
HARRISBURG, PENNSYLVANIA

50M–F&W